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OM protein - protein search, using sw model

Run on: May 13, 2003, 08:49:45, Search time 53.0847 seconds
(without alignments)
72.794 Million cell updates/sec

Title: US-09-868-974-2

Perfect score: 145

Sequence: 1 HAKGTPTNSVSYFGQAKPFIAMIYXX 29

Scoring table:

Gapop 10.0, Gapext 0.5

Searched: 908470 seqs, 13320620 residues

Total number of hits satisfying chosen parameters: 908470

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database: A:Geneseq-101002:*

1: /SID2/gcgdata3/geneseq/geneseq-emb1/AA1981.DAT:*

2: /SID2/gcgdata3/geneseq/geneseq-emb1/AA1981.DAT:*

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23: /SID2/gcgdata3/geneseq/geneseq-emb1/AA1981.DAT:*

pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No	Score	Query Match	Length	DB	Hit	Description
1	144	99.3	28	15	AAK45437	Insulin-like pept
2	144	99.3	28	15	AAK63244	Insulin-like pept
3	144	99.3	28	17	AAW16669	Tetradecanoylated
4	144	99.3	28	17	AAW02644	Glucagon-like pept
5	144	99.3	28	17	AAK98950	Target peptide (ol
6	144	99.3	28	20	AAW35227	Peptide used in tr
7	144	99.3	28	21	AAW07295	Modified glucagon
8	144	99.3	28	21	AAV78952	Glucagon-like pept
9	144	99.3	28	22	AAI09258	Human glucagon-like
10	144	99.3	28	22	AAK63270	Amino acid sequence

Result No	Score	Query Match	Length	DB	Hit	Description
11	144	99.3	28	22	AAK63273	At: Insulin-like gluc
12	144	99.3	28	23	AAK07145	Glucagon-like pept
13	144	99.3	28	23	AAK50845	Glucagon-like pept
14	144	99.3	29	13	AAK24524	GLP-1 derivative
15	144	99.3	29	15	AAK45436	Insulinotropin der
16	144	99.3	29	15	AAK50848	Insulinotropin (GL
17	144	99.3	29	16	AAK60075	Glucagon-like pept
18	144	99.3	29	17	AAK60075	GLP-1(7-35)-Met
19	144	99.3	29	19	AAW63181	GLP-1(7-35)-Met
20	144	99.3	29	19	AAW60094	GLP-1(7-35)-Met
21	144	99.3	29	20	AAV34197	GLP-1 mutant pept
22	144	99.3	29	20	AAV18038	GLP-1(7-37)OH der
23	144	99.3	29	21	AAH1890	Stable glucagon
24	144	99.3	29	21	AAV32729	Glucagon-like pept
25	144	99.3	29	21	AAV78951	Glucagon-like pept
26	144	99.3	29	22	AAE0259	Human glucagon-like
27	144	99.3	29	22	AAK63274	At: Insulin-like gluc
28	144	99.3	29	23	AAK60394	Glucagon-like pept
29	144	99.3	30	15	AAK45435	Insulinotropin der
30	144	99.3	30	15	AAK63247	Insulinotropin (GL
31	144	99.3	30	16	AAK60063	Amidated glucagon
32	144	99.3	30	16	AAK79809	Glucagon-like pept
33	144	99.3	30	16	AAK80548	Human glucagon-like
34	144	99.3	30	17	AAK98956	Target peptide (ol
35	144	99.3	30	17	AAK98956	GLP-1(7-35)-NH2
36	144	99.3	30	17	AAK98956	GLP-1(7-35)-Met
37	144	99.3	30	18	AAW16383	Glucagon-like pept
38	144	99.3	30	19	AAK63288	Glucagon-like pept
39	144	99.3	30	19	AAW63182	GLP-1(7-36)-Homo
40	144	99.3	30	19	AAW60906	Glucagon-like pept
41	144	99.3	30	20	AAV80307	Glucagon peptide-1
42	144	99.3	30	20	AAV80308	Glucagon peptide-1
43	144	99.3	30	20	AAV80316	Glucagon peptide-1
44	144	99.3	30	20	AAV42935	Glucagon-like pept
45	144	99.3	30	20	AAV27374	Glucagon-like pept

ALIGNMENTS

RESULT 1

AAK45437

ID AAK45437 standard; protein: 28 AA.

AAK45437:

27-JUN-1994 (first entry)

Insulinotropin derivative

Insulinotropin, activity, enhancing insulin activity; treatment;

Type II diabetes.

Synthetic.

WO9325579-A.

23-DEC-1993.

14-APR-1993: 93WO-0899073.

15-JUN-1992: 92US-0899073.

(PE12) PEIZER INC.

Andrews GC, Daumy GO, Francœur ML, Larson ER;

WPI; 1994-007457/01.

New series of glucagon-like peptide 1 and insulinotropin - used for

enhancing insulin action in a mammal, partic. by subpharyngeal admin.

Claim 3; Page 20; 32pp; English.

XX The sequence is that of a derivative of insulinotropic which
 CC has insulinotropic activity and is useful for enhancing insulin
 CC action in a mammal, partic. for treating Type II diabetes
 CC (claimed). It is partic. suited for delivery to a mammal by
 CC ionophoresis.

SO Sequence 28 AA;

Query Match 99.3%; Score 144; DB 15; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFIAWLVK 28
 DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLVK 28

RESULT 2

AA063249 standard; peptide; 28 AA.

XX AAR63249;

XX 02-MAY-1995 (first entry)

DE Insulinotropic (GLP-1(7-34)) for use in treating NIDDM.

XX insulinotropic activity; GLP-1, glucagon-like protein 1; NIDDM;

XX non-insulin dependent diabetes mellitus; insulinotropic; truncated.

XX Synthetic.

XX EPE19322-A.

XX 12-OCT-1994.

XX 10-FEB-1994; 94EP-0300981.

XX 07-APR-1994; 930S-0044133.

XX (PE12) PE1ZER INC.

XX (PE12) PE1ZER CORP.

XX Panley DE, Gelland RA, Geoghegan KE, Kim Y, Lambert WJ;

XX WI II, Oih, Hong Q, Yesook K;

XX WPI; 1994-311774/39.

XX Treatment of non-insulin dependent diabetes mellitus - using a

XX glucagon-like peptide 1 or deriv. with prolonged action for

XX sustained glycaemic control

XX Claim 2; Page 46; 70pp; English.

XX This peptide is GLP-1(7-34) [GLP-1, glucagon-like peptide], a truncated

XX deriv. of GLP-1, GLP-1 and its derivs are useful in the treatment of

XX Non-Insulin Dependent Diabetes Mellitus (NIDDM). During processing in

XX the pancreas and intestine, GLP-1 (AAR63245) is converted to a 31 amino

XX acid peptide having amino acids 7-37 of GLP-1, alternatively referred

XX to as insulinotropic, GLP-1(7-37) has insulinotropic activity, i.e. it

XX is able to stimulate, or cause to be stimulated, the synthesis of the

XX hormone insulin. Other derivs. of GLP-1 are shown in AAR63246-51. It

XX has been discovered that prolonged plasma elevations of GLP-1, and

XX related polypeptides, are necessary during the meal and beyond to

XX achieve sustained glycaemic control in patients with NIDDM. The invention

XX provides a compsn. that has prolonged action after each administration.

SO Sequence 28 AA;

Query Match 99.3%; Score 144; DB 15; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFIAWLVK 28
 DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLVK 28

RESULT 3

AA016669 standard; peptide; 28 AA.

XX AAM16669;

XX 22-JUL-1997 (first entry)

DE Tetradecanoylated glucagon like peptide 1 derivative.

XX Hormone; derivative; glucagon like peptide 1; modification;

XX lipophilic substituent; tetradecanoyl; protracted; action;

XX profile; GLP-1.

XX Synthetic.

XX Key

XX Modified-site 28

XX Location/Qualifiers

XX /note="Lys[Nepsion-gamma-Glu(Nalphe-tetradecanoyl)

XX -OH]-COOH"

XX W09629342-A1.

XX 26-SEP-1996.

XX 18-MAR-1996; 96WO-DK00106.

XX 17-MAR-1995; 95DK-0000275.

XX (NOVO) NOVO-NORDISK AS.

XX Halstrom JB, Hansen PH, Havelund S, Jonassen I;

XX Kurtzals P;

XX WPI; 1996-443133/44.

XX New peptide hormone derivs. - having a lipophilic substit.

XX introduced into the N-terminal or C-terminal for a protracted

XX profile of action.

XX Disclosure; Page 5; 21pp; English.

XX The present sequence is a pharmacologically active peptide hormone

XX (PH) derivative, where the parent PH, glucagon like peptide 1,

XX has been modified by introducing a carboxy-terminal lipophilic

XX substituent, specifically tetradecanoyl, giving it a protracted

XX profile of action in the body compared to the parent PH.

SO Sequence 28 AA;

Query Match 99.3%; Score 144; DB 17; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFIAWLVK 28
 DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLVK 28

RESULT 4

AA02644 standard; peptide; 28 AA.

XX AAM02644;

XX 24-JAN-1997 (first entry)

DE	Glucagon-like peptide-1 residues 7-34.
XX	
KM	GLP-1 (7-34); thixotropic; insulinotropic; diabetes; treatment;
XX	
KM	phenol; alcohol; aromatic; gel; protracted release.
XX	
OS	Synthetic.
XX	
PN	WO9620005-A1.
XX	
ED	04-JUL-1996.
XX	
PP	21-DEC-1995; 95WO-DK00516.
XX	
PR	23-DEC-1994; 94DK-0001478.
XX	
PA	(NOVO) NOVO-NORDISK AS.
XX	
PI	Jensen E, Jorgensen KH;
XX	
DK	WPI; 1996-321644/32.
XX	
PT	New compsns. compg. glucagon-like peptide-1 - comprising gels for
PT	the protracted release of GLP-1 in the treatment of diabetes
PT	melittus.
XX	
PS	Disclosure; Page 3; 16pp; English.
XX	
CC	The present sequence is that of residues 7-34 of glucagon-like peptide-1
CC	(GLP-1 (7-34)). Compsns. compg a GLP-1 cpd. and a phenolic ant/or an
CC	alcoholic aromatic cpd. result in a thixotropic gel showing a protracted
CC	release of the active GLP-1 cpd. The compsns. can be shown as
CC	insulinotropic agents in the treatment of diabetes. In partic. GLP-1
CC	(7-37) is used in the examples of the invention (sequence not given).
XX	
SQ	Sequence 28 AA;
XX	
Query Match	99.3%; Score 144; DR 17; Length 28;
Best Local Similarity	100.0%; P-Val. 2.1e-16;
Matches 28; Conservative	0; Mismatches 0; Indels 0; Gaps 0;
QY	1 HAEGFTSDVSSYLEGQAAKEFIAWLVK 28
DB	1 HAEGFTSDVSSYLEGQAAKEFIAWLVK 28
RESULT 5	
AAR98950	
ID	AAR98950 standard; peptide; 28 AA.
XX	
AC	AAR98950;
XX	
DT	15-JAN-1997 (first entry)
XX	
DE	Target peptide (GLP1(7-34)) used in fusion protein construct.
XX	
KW	Fusion protein construct; isolation; purification;
KW	growth hormone releasing factor; glucagon-like peptide 1;
KW	parathyroid hormone; inclusion body; carbonic anhydrase.
XX	
OS	Synthetic.
XX	
PN	WO9617942-A1.
XX	
PD	13-JUN-1996.
XX	
PP	07-DEC-1995; 95WO-US15800.
XX	
PR	07-DEC-1994; 94US-0350530
XX	
PA	(BION-) BIONEERASKA INC.
XX	
PI	DE LA MOTTE RS, Henriksen DB, Holmquist B, Manning SD;
PI	Partridge BR, Stout JS, Wagner FW;

XX	WP1: 1996-287186/29.
DK	
XX	Isolation and purification of peptide(s) from fusion protein constructs
PT	- which include a carbonic anhydrase and a variable fused
PT	polypeptide
XX	
FS	Claim 18, Page 47, 67pp, English.
XX	
CC	A new method for the isolation and/or purification of a recombinant
CC	peptide employs a fusion protein construct (FPC) comprising a
CC	carbonic anhydrase and a variable fused polypeptide containing a
CC	target peptide. The method comprises precipitating either the FPC or
CC	a fragment of the FPC including the carbonic anhydrase. An
CC	alternative method of producing the peptide comprises expressing the
CC	FPC as part of an inclusion body. The target peptides of the FPC are
CC	derived from growth hormone releasing factor (GRF), glucagon-like
CC	peptide 1 (Glp1) or parathyroid hormone (PTH). This sequence
CC	corresponds to amino acids 7-34 of Glp1.
XX	
SQ	Sequence 28 AA:
XX	
Query Match	99.3%, Score 144; DB 17; Length 28;
Best Local Similarity	100.0%; Pred. No. 2,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	
QY	1 HAEGETSDVSSYLEGQAAKEFIAMLVK 28
DB	1 HAEGETSDVSSYLEGQAAKEFIAMLVK 28
XXXXXX	
RESULT 6	
AAW93527	
ID	AAW93527 standard; peptide; 28 AA.
XX	
AC	AAW93527;
XX	
I/I	15-JUN-1995 (first entry)
XX	
DE	Peptide used in treatment of diabetes mellitus and obesity.
XX	
KW	Diabetes mellitus; obesity; therapy; treatment; hormone; CAMP; CGMP;
KW	cyclic adenosine monophosphate; cyclic nucleotide degradation;
KW	cyclic guanosine monophosphate; antidiabetic; hypoglycemia; acromegaly;
KW	anti-obesity; non-insulin-dependent; mature onset; pancreatic disease;
KW	secondary hyperglycemia; pancreatitis; pancreasectomy; pheochromocytoma;
KW	hemochromatosis; endocrine disease; Cushing's syndrome; iatrogenic;
KW	hyperthyroidism; benzothiadiazine saluretic; diazoxide; glucocorticoid;
KW	pathological glucose tolerance; hypotension; hyperglycemia; dyslipoproteinemia;
KW	hyperlipoproteinemia; hypotension.
OS	
XX	Synthetic.
OS	
XX	WO9914239-A1.
XX	
ED	25-MAR-1999.
XX	
FE	11-SEP-1998; 98WO-EP05804.
XX	
XX	11-MAR-1998; 98DB-1010515.
PR	12-SEP-1997; 97DB-1040081.
PR	23-DEC-1997; 97DB-1057739.
XX	
PA	(FORSS/) FORSSMANN W G.
XX	
PI	Adermann K, Forssmann WG, Meyer M, Richter R;
XX	
XX	WP1: 1999-244026/20.
DK	
XX	Composition containing stimulators of cyclic nucleotide
PT	monophosphate
XX	
XX	Claim 30; Page 18; 38pp; German.

XX This invention describes a composition containing at least two of the
 CC components (a) hormone that stimulates production of cyclic adenosine
 CC monophosphate (cAMP) (b) inhibitor of cyclic nucleotide degradation
 CC and (c) hormone that stimulates production of cyclic guanosine
 CC monophosphate (cGMP). This composition has antidiabetic, hypoglycaemic,
 CC and anti-obesity activity. The product described in the invention
 CC can be used for treatment of (i) diabetes mellitus (non-)insulin
 CC dependent or mature onset diabetes, (ii) secondary hyperglycemia
 CC associated with pancreatic disease, (chronic pancreatitis, pancreasectomy
 CC or hemochromatosis) or endocrine disease (acromegaly, Cushing's
 CC syndrome, pheochromocytoma or hyperthyroidism), (iii) iatrogenic
 CC hyperglycemia (e.g. caused by benzothiadiazine saluretics, diazoxide or
 CC glucocorticoids), (iv) pathological glucose tolerance, (v) hyperglycemia,
 CC (vi) dyslipoproteinemia, (vii) obesity, (viii) hyperlipoproteinemia
 CC and/or hypotension.

SQ Sequence 28 AA:

Query Match 99.1%; Score 144; DB 20; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28
 DB 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28

RESULT 7
 AAH07295
 ID AAH07295 standard; peptide: 28 AA.

AC AAB07295:

DT 17-JAN-2001 (first entry)

DE Modified Glucagon like Peptide (GLP) # 5.

KM Peptide amidation: C-terminal alpha-carboxamide; GLP; clostripain;
 KW amidative cleavage; clostripain; B; glucagon like peptide.

XX Unidentified.

XX WO200028067-A1.

PD 18-MAY-2000.

PF 05-NOV-1999; 99WO-US26060.

PR 06-NOV-1998; 98US-0107311.

PR 16-DEC-1998; 98US-0212663.

PA (BION-) BIONEERASKA INC.

PI Dornady D, Stout JS, Strydom DJ, Holmquist B, Wagner FW;
 XX WPI: 2000-376575/32.

PT Preparation of peptide with C-terminal alpha-carboxamide residue, a
 PT growth hormone releasing factors comprises treating substrate with
 PT ammonia in presence of clostripain
 PS Example 1: Page 16; 48pp; English.

XX The present sequence is a modified glucagon like peptide (GLP) fragment.
 CC This sequence is composed of residues 7 to 34 of GLP, and was produced
 CC by attempted clostripain catalysed amidation of another modified GLP
 CC fragment (AAH07291) at pH 7.9. Hydrolysis at lys14 occurred to produce the
 CC present sequence. The expected product would have had a C-terminal
 CC alpha-carboxamide residue. The peptide of AAB07291 was treated with an
 CC ammonia reagent and clostripain (also known as clostripain B).
 CC Clostripain is an extracellular thiol endoprotease from Clostridia.
 CC Clostripain cleaves arginine containing peptides amidatively at an

CC Arg-Xaa peptide bond.
 XX SQ Sequence 28 AA.

Query Match 99.1%; Score 144; DB 21; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28
 DB 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28

RESULT 8
 AAY78952
 ID AAY78952 standard; peptide: 28 AA.

AC AAY78952:

DT 05-JUN-2000 (first entry)

DE Glucagon-like peptide-1 fragment GLP-1 (7-34).

KW Glucagon-like peptide-1; GLP-1; insulin producing cell; insulin; amylose;
 KW diabetes mellitus type 1; human; livestock; pct.

OS Homo sapiens.

PN WO200009666-A2.

PD 24-FEB-2000.

PF 10-AUG-1999; 99WO-US18099.

PR 10-AUG-1998; 98US-0095917.

PA (USSH) US DEPT HEALTH & HUMAN SERVICES.

PI Egan J, Perfield R, Passaniti A, Greig N, Holloway H;
 XX WPI: 2000-205999/18.

PT Differentiation of non-insulin producing cells into insulin-producing
 PT cells by glucagon-like peptide-1 or extendin-4, used to treat diabetes
 PT mellitus
 PS Disclosure: Page 16; 119pp; English.

CC This sequence represents a glucagon-like peptide-1 (GLP-1) fragment.
 CC GLP-1 is a hormone normally secreted by neuroendocrine cells of the gut,
 CC in response to food. GLP-1 fragments or extendin-4 growth factor
 CC fragments can be used in the production of a population of
 CC insulin-producing cells from a population of non-insulin producing cells.
 CC The methods may also be used to promote pancreatic amylase producing
 CC cells to produce both insulin and amylase. The methods are used to treat
 CC diabetes mellitus (type 1) in humans, domesticated animals, livestock and
 CC pets.

SQ Sequence 28 AA:

Query Match 99.1%; Score 144; DB 21; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28
 DB 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28

RESULT 9
 AAE09258
 ID AAE09258 standard; peptide: 28 AA.

AC AAB09258;
 XX
 DT 15-NOV-2001 (first entry)
 XX
 DE Human glucagon-like peptide-1 related molecule (GLP-1 derivative #5.
 XX
 KW Human, glucagon-like peptide 1 related molecule; GLP; GLP crystal;
 KM manufacturing process, pharmaceutical formulation, therapy; diabetes;
 XX obesity.
 XX
 OS Homo sapiens.
 OS Synthetic.
 XX
 PN US2001014666-A1.
 XX
 PD 16-AUG-2001.
 XX
 PF 11-DEC-1998; 98US-0209799.
 XX
 PR 11-DEC-1998; 98US-0209799.
 XX
 PA (HERMELING R. N.
 PA (HOFFMANN J. A.
 PA (NARASIMHAN C.
 XX
 PI Hermeling RN, Hoffmann JA, Narasimhan C;
 XX
 DR WPI: 2001-529113/58.
 XX
 PT Glucagon-like peptide-1 crystals for treating diabetes are prepared
 PT from mother liquor containing glucagon-like peptide-1 related molecules
 PT dissolved in buffered solution and alcohol -
 XX
 PS Disclosure: Page 11; 17pp; English.
 XX
 CC The present sequence is a human glucagon-like peptide-1 related molecule
 CC (GLP-1 derivative. The single tetragonal flat rod-shaped or plate-like
 CC crystals of a GLP are prepared from a crystallization solution containing
 CC a buffering agent, an alcohol or a mono or disaccharide and
 CC optionally ammonium sulphate or zinc. The GLP crystals are used in
 CC manufacturing process, in pharmaceutical formulations for treating
 CC diabetes, obesity or related conditions in mammals.
 XX
 SO Sequence 28 AA;
 XX
 Query Match 99.3%; Score 144; DB 22; Length 28;
 Best Local Similarity 100.0%; Pred No 2, Le-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
 DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
 XX
 RESULT 10
 AAG63273
 ID AAG63270 standard; protein; 28 AA.
 XX
 AC AAG63270;
 XX
 DT 01-OCT-2001 (first entry)
 XX
 DE Amino acid sequence of glucagon-like peptide 1 (GLP-1) analogue
 XX
 KW Glucagon-like peptide 1; GLP-1; soluble GLP-1.
 XX
 OS Synthetic.
 XX
 OS Key Location/Qualifiers
 FH Misc-difference 28 /note- "this residue is Lys-COOH or Lys-Gly COOH"
 FT
 XX
 PN WO200155213-A2.

XX
 PD 02-AUG-2001.
 XX
 PF 16-JAN-2001; 2001WO-0500010
 XX
 PR 27-JAN-2000; 2000US-0178438.
 PR 09-AUG-2000; 2000US-0224058.
 XX
 PA (ELIL) LILLY & CO ELI.
 XX
 PI Prouty WFJ, Rineilla JVJ;
 XX
 DR WPI: 2001-476192/51.
 XX
 PT Preparing a glucagon-like peptide 1 compound soluble in aqueous
 PT solution at pH 7.4, comprises dissolving the insoluble form in aqueous
 PT base or acid and neutralizing the solution -
 XX
 PS Disclosure: Page 12; 49pp; English.
 XX
 CC The present sequence represents a glucagon-like peptide 1 (GLP-1)
 CC analogue. The specification describes a method for preparing a GLP-1
 CC compound that is soluble in aqueous form at pH 7.4 from a GLP-1
 CC compound that is insoluble in aqueous form at pH 7.4. The method
 CC comprises dissolving the insoluble compound in aqueous base or acid;
 CC neutralizing the GLP-1 solution to a pH at which no amino acid
 CC racemization of the GLP-1 compound occurs; and isolating GLP-1 from
 CC the neutralized solution. The method is used to prepare a soluble form
 CC of a GLP-1 compound. The soluble form of GLP-1 is physiologically active.
 XX
 SO Sequence 28 AA;
 XX
 Query Match 99.4%; Score 144; DB 22; Length 28;
 Best Local Similarity 100.0%; Pred No 2, Le-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
 DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
 XX
 RESULT 11
 AAG63273
 ID AAG63273 standard; protein; 28 AA.
 XX
 AC AAG63273;
 XX
 DT 01-OCT-2001 (first entry)
 XX
 DE An insoluble glucagon like peptide 1 (GLP-1) compound.
 XX
 KW Glucagon-like peptide 1; GLP-1; soluble GLP-1.
 XX
 OS Synthetic.
 XX
 PN WO200155213 A2.
 XX
 PD 02-AUG-2001.
 XX
 PF 16-JAN-2001; 2001WO-0500010.
 PR 27-JAN-2000; 2000US-0178438.
 PR 09-AUG-2000; 2000US-0224058.
 XX
 PA (ELIL) LILLY & CO ELI.
 XX
 PI Prouty WFJ, Rineilla JVJ;
 XX
 DR WPI: 2001-476192/51.
 XX
 PT Preparing a glucagon like peptide 1 compound soluble in aqueous
 PT solution at pH 7.4, comprises dissolving the insoluble form in aqueous
 PT base or acid and neutralizing the solution -

XX Claim 4: Page 38; 49pp; English.
 PS
 CC The present sequence represents an insoluble glucagon-like peptide 1
 CC (GLP-1). The specification describes a method for preparing a GLP-1
 CC compound that is soluble in aqueous form at pH 7.4 from a GLP-1
 CC compound that is insoluble in aqueous form at pH 7.4. The method
 CC comprises dissolving the insoluble compound in aqueous base or acid;
 CC neutralizing the GLP-1 solution to a pH at which no amino acid
 CC racemization of the GLP-1 compound occurs; and isolating GLP-1 from
 CC the neutralized solution. The method is used to prepare a soluble form
 CC of a GLP-1 compound. The soluble form of GLP-1 is physiologically active.
 CC
 SU Sequence 28 AA:
 Query Match 99.3%; Score 144; DB 23; Length 28;
 Host Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 1 HAEGETSDVSSYLEGQAKEFIAMLVK 28
 1 HAEGETSDVSSYLEGQAKEFIAMLVK 28
 DB
 RESULT 12
 ABB07145
 ID ABB07145 standard; peptide: 28 AA.
 XX
 AC ABB07145;
 XX
 DT 13 MAR 2002 (first entry)
 XX
 DE Glucagon-like peptide-1 (GLP-1) fragment (residues 7-34).
 XX
 KW GLP-1; glucagon-like peptide-1; growth-hormone releasing factor; GRF;
 KW parathyroid hormone; PTH; antidiabetic; anorectic; cerebroprotective;
 KW vasotropic; anti-inflammatory; antiarteriosclerotic; hepatotropic;
 KW tranquillizer; vulnerary; osteopathic; pharmaceutical.
 XX
 OS Homo sapiens.
 XX
 PN W0200187322-A2.
 XX
 PD 22 NOV 2001.
 XX
 PP 17 MAY 2001; 2001WO-US15872.
 XX
 PR 17 MAY 2000; 2000US-205377P.
 PR 19 MAY 2000; 2000US-205262P.
 XX
 PA (HION-) HIONERASKA INC.
 XX
 PI Holmgvist B, Dormady DC;
 XX
 DR WPI: 2002-082941/11.
 XX
 PT New peptide formulation for treating disease e.g. diabetes, obesity,
 PT ischemia comprises peptides, an acid having a specified dissociation
 PT constant and an excitant.
 XX
 PS Disclosure: Page 10; 34pp; English.
 XX
 CC The invention provides a pharmaceutical composition that comprises a
 CC molecule selected from a glucagon-like-peptide-1 (GLP-1) molecule, growth
 CC -hormone releasing factor (GRF) molecule or a parathyroid hormone (PTH)
 CC molecule. The composition further includes a weak acid such as acetic
 CC acid. The pH of the composition is 3 - 5. The composition can be used for
 CC the treatment of a disease or condition selected from diabetes, excess
 CC appetite, obesity, stroke, ischemia, reperfusion injury, disturbed
 CC glucose metabolism, surgery, coma, shock, gastrointestinal disease,
 CC digestive hormone disease, atherosclerosis, vascular disease, gestational
 CC diabetes, liver disease and cirrhosis, glucocorticoid excess, Cushing's
 CC disease, the presence of activated counter regulatory hormones that occur

CC after trauma or a disease, hypertriglyceridemia, chronic pancreatitis,
 CC the need for parenteral feeding, and a catabolic state following surgery
 CC or injury. The present sequence represents a GLP-1 peptide fragment.
 CC
 SU Sequence 28 AA:
 Query Match 99.3%; Score 144; DB 23; Length 28;
 Host Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 1 HAEGETSDVSSYLEGQAKEFIAMLVK 28
 1 HAEGETSDVSSYLEGQAKEFIAMLVK 28
 DB
 RESULT 13
 AAM50395
 ID AAM50395 standard; Peptide, 28 AA.
 XX
 AC AAM50395;
 XX
 DT 18-FEB-2002 (first entry)
 XX
 DE Glucagon-like peptide 1 (7-34).
 XX
 KW Glucagon-like peptide 1 (7-34); GLP-1 (7-34); insulinotropic;
 KW human; glycemia; antidiabetic; insulinotropic; NIDDM;
 KW non-insulin dependent diabetes mellitus; therapy.
 XX
 OS Homo sapiens.
 XX
 PN US6284727-B1.
 XX
 PD 04-SEP-2001.
 XX
 PP 07-JUN-1995; 95US-0472349.
 XX
 PR 25-JAN-1994; 94US-0181655.
 PR 07-APR-1993; 93US-0044133.
 XX
 PA (SCLIO-) SCLIOS INC.
 XX
 PI Kim Y, Lambert WJ, Qi H, Gelfand PA, Geophegan KF, Danley DE;
 XX
 DR WPI: 2002-033119/04.
 XX
 PT Compositions useful in treatment of non-insulin dependent diabetes
 PT mellitus comprises peptides and polymer e.g. polysaccharide or
 PT vegetable oil.
 XX
 PS Claim 1(1)(c): Column 47; 42pp; English.
 XX
 CC The present sequence is that of amino acids 7-34 of glucagon-like
 CC peptide 1 (GLP-1). During processing in the pancreas and
 CC intestine, 37-amino acid GLP-1 is converted to 31-amino acid
 CC GLP-1 (7-37). This peptide has insulinotropic activity, i.e. it is
 CC able to stimulate, or cause to be stimulated, the synthesis or
 CC expression of insulin. GLP-1, GLP-1 (7-37) and their derivatives,
 CC including the present peptide, are used in claimed compositions for
 CC prolonged administration in the treatment of non-insulin dependent
 CC diabetes mellitus. The compositions, which also include a polymer
 CC such as a polysaccharide or vegetable oil, enhance insulin action
 CC to achieve sustained glycaemic control.
 CC
 SU Sequence 28 AA:
 Query Match 99.3%; Score 144; DB 23; Length 28;
 Host Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 1 HAEGETSDVSSYLEGQAKEFIAMLVK 28
 1 HAEGETSDVSSYLEGQAKEFIAMLVK 28
 DB

Db 1 HAEGFTSDVSSYLEGQAKEFIAMLVK 28

RESULT 14

AAK4524 standard; peptide; 29 AA.

AAK4524:

02 DEC-1992 (first entry)

GLP-1 derivative.

Maturity onset diabetes mellitus; MODM; pathogenesis.

Homo sapiens.

US5118666-A.

02-JUN-1992.

05-MAY-1986; 86US-0859928.

05-MAY-1986; 86US-0859928.

26-JAN-1988; 88US-0148517.

01-JUN-1990; 90US-0532111.

(GCHO) GEN HOSPITAL CORP.

Habener JF.

WPI: 1992-208235/25.

New glucagon-like peptide 1 derivatives - have insulinotropic activity and are used to treat diabetes mellitus

Claim 1: Page 20 and Fig 1; 16pp; English.

The sequence given is derived from glucagon-like peptide 1 (GLP-1) and has a higher insulinotropic activity than GLP-1 (1-36) and GLP-1 (1-37). The peptide may be modified to a acid addn. or carboxylic acid addn. salt or lower alkyl ester and amide (lower dialkyl amide) derivative. These modified derivatives have the same insulinotropic activity as the original GLP-1 derivative. These peptides are used in the treatment of maturity onset diabetes mellitus (MODM). They may also be used in the study of MODM pathogenesis. Dosages can be administered intravenously, intramuscularly or subcutaneously.

Sequence 29 AA:

Query Match 99.3%; Score 144; DB 13; length 29;

Host Local Similarity 100.0%; Pred. No. 2.2e-14; Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAKEFIAMLVK 28

Db 1 HAEGFTSDVSSYLEGQAKEFIAMLVK 28

RESULT 15

AAK45436 standard; protein; 29 AA.

AAK45436:

27-JUN-1994 (first entry)

Insulinotropic derivative.

Insulinotropic; activity; enhancing insulin activity; treatment; type II diabetes.

Synthetic.

XX W09325579-A.

XX 23-DEC-1993.

XX 14 APR 1993; 93WO-0503388.

XX 15-JUN-1992; 92US-0899073.

XX (PFI) PFIZER INC.

XX Andrews GC, Daumy GO, Francoeur ML, Larson ER;

XX WPI: 1994-00745/01.

XX New derivs. of glucagon like peptide 1 and insulinotropic - used for enhancing insulin action in a mammal, partic. by iontophoretic admin.

XX Claim 3: Page 20; 32pp; English.

The sequence is that of a derivative of insulinotropic which has insulinotropic activity and is useful for enhancing insulin action in a mammal, partic. for treating type II diabetes (claimed). It is partic. suited for delivery to a mammal by iontophoresis.

Sequence 29 AA:

Query Match 99.3%; Score 144; DB 15; length 29;

Best Local Similarity 100.0%; Pred. No. 2.2e-14; Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAKEFIAMLVK 28

Db 1 HAEGFTSDVSSYLEGQAKEFIAMLVK 28

Search completed: May 13, 2003, 09:25:03
Job time: 54.0847 secs

GenCore version 5.1.4_p5_4578
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OW protein - protein search, using sw model

Run on: May 13, 2003, 09:54:41 Search time: 18.678 seconds
(without alignments)
45.683 Million cell updates/sec

Title: US-09-868-974-2

Sequence: 1 HAFGFTSDVSYLPOQAKKPIIALLVKK 29

Scoring table:

Gapop 10.0, Gapext 0.5

Searched: 262574 seqs, 2942222 residues

Total number of hits satisfying chosen parameters: 262574

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database:

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- 4: /cgn2_6/prodata/1/1aa/5A_COMB.pep.*
- 5: /cgn2_6/prodata/1/1aa/5B_COMB.pep.*
- 6: /cgn2_6/prodata/1/1aa/5A_COMB.pep.*

Prod. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	144	99.3	28	1	US-08-095-162-4
2	144	99.3	28	1	US-08-470-220A-4
3	144	99.3	28	3	US-08-967-374-4
4	144	99.3	28	4	US-08-472-349-5
5	144	99.3	28	4	US-08-209-799B-8
6	144	99.3	28	4	US-09-505-991-4
7	144	99.3	28	4	US-08-212-663-5
8	144	99.3	28	5	US-08-095-15800-21
9	144	99.3	29	1	US-08-095-162-18
10	144	99.3	29	1	US-08-470-220A-18
11	144	99.3	29	4	US-08-967-374-18
12	144	99.3	29	4	US-08-472-349-4
13	144	99.3	29	4	US-08-209-799B-9
14	144	99.3	29	4	US-09-505-991-18
15	144	99.3	30	1	US-08-095-162-1
16	144	99.3	30	1	US-08-470-220A-1
17	144	99.3	30	2	US-08-967-374-1
18	144	99.3	30	3	US-08-472-349-1
19	144	99.3	30	4	US-08-209-799B-1
20	144	99.3	30	4	US-09-505-991-1
21	144	99.3	30	4	US-08-967-374-1
22	144	99.3	30	4	US-08-472-349-1
23	144	99.3	30	4	US-08-209-799B-1
24	144	99.3	30	4	US-09-505-991-1
25	144	99.3	30	4	US-08-967-374-1
26	144	99.3	30	4	US-08-472-349-1
27	144	99.3	30	4	US-09-505-991-1

28	144	99.3	30	4	US-09-975-905-1	Sequence 1, Appl 1
29	144	99.3	30	4	US-09-505-991-1	Sequence 1, Appl 1
30	144	99.3	30	4	US-08-573-809-1	Sequence 1, Appl 1
31	144	99.3	30	4	US-09-303-016-4	Sequence 4, Appl 1
32	144	99.3	30	4	US-09-212-663-4	Sequence 4, Appl 1
33	144	99.3	30	5	US-09-15800-27	Sequence 27, Appl 1
34	144	99.3	31	1	US-08-095-162-1	Sequence 1, Appl 1
35	144	99.3	31	1	US-08-470-220A-1	Sequence 1, Appl 1
36	144	99.3	31	1	US-08-967-374-1	Sequence 1, Appl 1
37	144	99.3	31	1	US-08-209-799B-1	Sequence 1, Appl 1
38	144	99.3	31	1	US-08-472-349-1	Sequence 1, Appl 1
39	144	99.3	31	2	US-08-807-263-3	Sequence 3, Appl 1
40	144	99.3	31	2	US-08-807-263-3	Sequence 3, Appl 1
41	144	99.3	31	3	US-08-967-374-3	Sequence 3, Appl 1
42	144	99.3	31	3	US-08-967-374-3	Sequence 3, Appl 1
43	144	99.3	31	4	US-08-967-374-3	Sequence 3, Appl 1
44	144	99.3	31	4	US-09-258-750-3	Sequence 3, Appl 1
45	144	99.3	31	4	US-08-915-918A-1	Sequence 1, Appl 1

ALIGNMENTS

RESULT 1
US-08-095-162-4
Sequence 4, Application US/08095162
Patent No. 5512459

GENERAL INFORMATION:

APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Recombinant Polypeptides
TITLE OF INVENTION: Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSER: Merchant & Gould
STREET: 4100 No. 5512459 West Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/095,162
FILING DATE: 20-JUL-1993
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Nelson, Albin J.
REGISTRATION NUMBER: 28,659
REFERENCE/DOCKET NUMBER: 8648.32-US01

TELECOMMUNICATION INFORMATION:

TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SPU III NO. 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 28 amino acids
TYPE: amino acid

MOLECULE TYPE: linear

IMMEDIATE SOURCE:

CLONE: G1P1 (7-34)

Query Match

Best Local Similarity 99.0%, Score 144, EB 1, Length 28;
Matches 28; Conservative 0; Mismatches 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFLIAMIWK 28
|||||
DB 1 HAEGFTSDVSSYLEGQAAKEFLIAMIWK 28

RESULT 2

US-08-470-220A-4
Sequence 4, Application US/08470220A
Patent No. 5707826

GENERAL INFORMATION:

APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 5707826west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/470,220A
FILING DATE: 06-JUN-1995
CLASSIFICATION: 435

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/095,162
FILING DATE: 20-JUL-1993
ATTORNEY/AGENT INFORMATION:
NAME: Nelson, Albin J.

REGISTRATION NUMBER: 28,659

REFERENCE/DOCKET NUMBER: 8648.32-US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081

INFORMATION FOR SEQ ID NO: 4:

SEQUENCE CHARACTERISTICS:
LENGTH: 28 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GLP1 (7-34)
US-08-470-220A-4

Query Match 99.3%; Score 144; DB 1; Length 28;
Best Local Similarity 100.0%; Pred. No. 1.1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFLIAMIWK 28
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DB 1 HAEGFTSDVSSYLEGQAAKEFLIAMIWK 28

RESULT 3

US-08-967-374-4
Sequence 4, Application US/08967374
Patent No. 6037143

GENERAL INFORMATION:

APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane

TITLE OF INVENTION: Enzymatic Method for Modification of
TITLE OF INVENTION: Recombinant polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 6037143west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/967,374
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/520,485
FILING DATE: 29-AUG-1995
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.32-US01

TELECOMMUNICATION INFORMATION:

TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081

INFORMATION FOR SEQ ID NO: 4:

SEQUENCE CHARACTERISTICS:
LENGTH: 28 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GLP1 (7-34)
US-08-967-374-4

Query Match 99.3%; Score 144; DB 3; Length 28;
Best Local Similarity 100.0%; Pred. No. 1.1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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DB 1 HAEGFTSDVSSYLEGQAAKEFLIAMIWK 28

RESULT 4

US-08-472-349-5
Sequence 5, Application US/08472349
Patent No. 6284727

GENERAL INFORMATION:

APPLICANT: Kim, Yesook
APPLICANT: Lambert, William J.
APPLICANT: OI, Hong
APPLICANT: Gelland, Robert A.
APPLICANT: Geoghagan, Kieran F.
APPLICANT: Danley, Dennis E.
TITLE OF INVENTION: Prolonged delivery of peptides
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pflizer Inc
STREET: 235 East 42nd Street, 20th floor
CITY: New York
STATE: New York
COUNTRY: U.S.A.
ZIP: 10017-5755

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25

Genetic Version: 5.1.4.15.4578
Copyright (c) 1993 - 2003 Compugen Ltd

OM protein - protein search, using sw model

Run on May 13, 2003, 09:27:17, Search time: 14.7458 seconds
(without alignments)
180.984 Million cell updates/sec

Title: US-09-868-974-2

Perfect score: 145

Sequence: 1 HAEGLTSEVSYLEGOAKEFIAMLVKX 29

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Total number of hits satisfying chosen parameters: 349150

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Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

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- 3: /cgn2_6/ptodata/2/pubpaa/US08_NMW_PUB pep:*
- 4: /cgn2_6/ptodata/2/pubpaa/US08_NMW_PUB pep:*
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- 14: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
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5	144	99.3	29	9	US-10-169-657-7
6	144	99.3	30	9	US-10-125-255-1
7	144	99.3	30	9	US-09-834-229A-5
8	144	99.3	30	9	US-09-997-792-10
9	144	99.3	30	9	US-10-091-258-4
10	144	99.3	30	10	US-09-851-738-4
11	144	99.3	30	10	US-09-805-507-4
12	144	99.3	30	10	US-09-859-804-4
13	144	99.3	30	10	US-09-982-978-4
14	144	99.3	30	10	US-09-951-021B-4
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16	144	99.3	31	9	US-09-834-229A-1
17	144	99.3	31	9	US-09-997-792-1
18	144	99.3	31	9	US-10-093-958-1
19	144	99.3	31	9	US-10-169-657-1

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21	144	99.3	31	9	US-10-091-258-3	Sequence 3, Appl
22	144	99.3	31	10	US-09-754-723-1	Sequence 1, Appl
23	144	99.3	31	10	US-09-420-785A-3	Sequence 2, Appl
24	144	99.3	31	10	US-09-876-488-2	Sequence 17, Appl
25	144	99.3	31	10	US-09-876-488-17	Sequence 27, Appl
26	144	99.3	31	10	US-09-876-488-27	Sequence 28, Appl
27	144	99.3	31	10	US-09-876-488-28	Sequence 3, Appl
28	144	99.3	31	10	US-09-851-738-3	Sequence 3, Appl
29	144	99.3	31	10	US-09-805-507-3	Sequence 3, Appl
30	144	99.3	31	10	US-09-859-804-3	Sequence 3, Appl
31	144	99.3	31	10	US-09-982-978-3	Sequence 3, Appl
32	144	99.3	31	10	US-09-953-021B-3	Sequence 3, Appl
33	144	99.3	31	12	US-10-072-540A-1	Sequence 1, Appl
34	144	99.3	35	9	US-09-943-084-1	Sequence 1, Appl
35	144	99.3	36	9	US-10-091-258-2	Sequence 2, Appl
36	144	99.3	36	10	US-09-851-738-2	Sequence 2, Appl
37	144	99.3	36	10	US-09-805-507-2	Sequence 2, Appl
38	144	99.3	36	10	US-09-859-804-2	Sequence 2, Appl
39	144	99.3	36	10	US-09-982-978-2	Sequence 2, Appl
40	144	99.3	36	10	US-09-953-021B-2	Sequence 2, Appl
41	144	99.3	37	9	US-10-091-258-1	Sequence 1, Appl
42	144	99.3	37	10	US-09-420-785A-2	Sequence 1, Appl
43	144	99.3	37	10	US-09-876-488-1	Sequence 1, Appl
44	144	99.3	37	10	US-09-876-488-16	Sequence 16, Appl
45	144	99.3	37	10	US-09-876-488-25	Sequence 25, Appl

ALIGNMENTS

RESULT 1
US-09-997-792-8
Sequence 8, Application US/09997792
Publication No. US20030045464A1
GENERAL INFORMATION:
APPLICANT: He-me-119, Ronald
APPLICANT: Hoffmann, James
TITLE OF INVENTION: Natriuretic, Chakravarty
FILE REFERENCE: X-10242
CURRENT APPLICATION NUMBER: US/09/997,792
CURRENT FILING DATE: 2001-11-30
NUMBER OF SEQ ID NOS: 29
SOFTWARE: PatentIn version 3.0
SEQ ID NO 8
LENGTH: 28
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: synthetic construct
US-09-997-792-8

Query Match: 99.3%, Score 144, DB 9, Length 28;
Best local Similarity 100.0%, Pred. No. 4.2e-15;
Matches 28, Conservative 0, Mismatches 0, Indels 0, Gaps 0;

DB 1 HAEGLTSEVSYLEGOAKEFIAMLVK 28
|||||

RESULT 2
US-10-169-657-6
Sequence 6, Application US/10169657
Publication No. US20030060412A1
GENERAL INFORMATION:
APPLICANT: Eli Lilly and Company
TITLE OF INVENTION: Process for Solubilizing Glycogen-Like Peptide 1 Compounds
FILE REFERENCE: X-11708
CURRENT APPLICATION NUMBER: US/10/169,657
CURRENT FILING DATE: 2002-08-28
PRTOR APPLICATION NUMBER: US 60/178,438

```
? PRIOR FILING DATE: 2000-01-27
? PRIOR APPLICATION NUMBER: US 60/224,058
? PRIOR FILING DATE: 2000-08-09
? NUMBER OF SEQ ID NOS: 36
? SOFTWARE: Patent in version 3.0
? SEQ ID NO 6
? LENGTH: 28
? TYPE: PRT
? ORGANISM: Artificial Sequence
? FEATURE:
? OTHER INFORMATION: synthetic construct
? NAME/KEY: VARIANT
? LOCATION: (1)..(28)
? OTHER INFORMATION: The last 3 amino acids of GLP-1 (7-37) are deleted
US-10-169-657-6
```

```
Query Match          99.3%: Score 144: DB 9: Length 28:
Best Local Similarity 100.0%: Pred. No. 4.3e-15:
Matches 28: Conservative 0: Mismatches 0: Indels 0: Gaps 0:
```

```
OY 1 HAEGFTSDVSSYLEGQAAKEFLIWLK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFLIWLK 28
```

```
RESULT 3
US-09-834-229A-3
? Sequence 3, Application US/09/834,229A
? Publication No. US2003002823A1
? GENERAL INFORMATION:
? APPLICANT: Ependic, Snad
? TITLE OF INVENTION: USE OF GLP-1 OR ANALOGS IN TREATMENT OF MYOCARDIAL INFARCTION
? FILE REFERENCE: X-10822A
? CURRENT APPLICATION NUMBER: US/09/834,229A
? PRIOR FILING DATE: 2001-04-12
? PRIOR APPLICATION NUMBER: US 08/915,918
? PRIOR FILING DATE: 1997-08-21
? PRIOR APPLICATION NUMBER: US 06/024,980
? NUMBER OF SEQ ID NOS: 6
? SOFTWARE: Patent in version 3.1
? SEQ ID NO 3
? LENGTH: 29
? TYPE: PRT
? ORGANISM: Artificial Sequence
? FEATURE:
? OTHER INFORMATION: synthetic construct
? NAME/KEY: MISC FEATURE
? LOCATION: (29)..(29)
? OTHER INFORMATION: Xaa at position 29 is absent or Gly.
US-09-834-229A-3
```

```
Query Match          99.3%: Score 144: DB 9: Length 29:
Best Local Similarity 100.0%: Pred. No. 4.3e-15:
Matches 28: Conservative 0: Mismatches 0: Indels 0: Gaps 0:
```

```
OY 1 HAEGFTSDVSSYLEGQAAKEFLIWLK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFLIWLK 28
```

```
RESULT 4
US-09-997-792-9
? Sequence 9, Application US/09/977,792
? Publication No. US2003004364A1
? GENERAL INFORMATION:
? APPLICANT: Hermeling, Ronald
? APPLICANT: Hoffmann, James
? APPLICANT: Narasimhan, Chakravarthy
? TITLE OF INVENTION: GLUCAGON-LIKE PEPTIDE-1 CRYSTALS
? FILE REFERENCE: X-10242
? CURRENT APPLICATION NUMBER: US/09/997,792
```

```
? CURRENT FILING DATE: 2001-11-30
? NUMBER OF SEQ ID NOS: 29
? SOFTWARE: Patent in version 3.0
? SEQ ID NO 9
? LENGTH: 29
? TYPE: PRT
? ORGANISM: Artificial Sequence
? FEATURE:
? OTHER INFORMATION: synthetic construct
US-09-997-792-9
```

```
Query Match          99.3%: Score 144: DB 9: Length 29:
Best Local Similarity 100.0%: Pred. No. 4.3e-15:
Matches 28: Conservative 0: Mismatches 0: Indels 0: Gaps 0:
```

```
OY 1 HAEGFTSDVSSYLEGQAAKEFLIWLK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFLIWLK 28
```

```
RESULT 5
US-10-169-657-7
? Sequence 7, Application US/10/169,657
? Publication No. US20030060412A1
? GENERAL INFORMATION:
? APPLICANT: Eli Lilly and Company
? TITLE OF INVENTION: Process for solubilizing Glucagon-like Peptide 1 Compounds
? FILE REFERENCE: X-11708
? CURRENT APPLICATION NUMBER: US/10/169,657
? PRIOR FILING DATE: 2003-06-28
? PRIOR APPLICATION NUMBER: US 60/178,438
? PRIOR FILING DATE: 2000-01-27
? PRIOR APPLICATION NUMBER: US 60/224,058
? NUMBER OF SEQ ID NOS: 36
? SOFTWARE: Patent in version 3.0
? SEQ ID NO 7
? LENGTH: 29
? TYPE: PRT
? ORGANISM: Artificial Sequence
? FEATURE:
? OTHER INFORMATION: synthetic construct
? NAME/KEY: VARIANT
? LOCATION: (1)..(29)
? OTHER INFORMATION: The last 2 amino acids of GLP-1 (7-37) are deleted
US-10-169-657-7
```

```
Query Match          99.3%: Score 144: DB 9: Length 29:
Best Local Similarity 100.0%: Pred. No. 4.3e-15:
Matches 28: Conservative 0: Mismatches 0: Indels 0: Gaps 0:
```

```
OY 1 HAEGFTSDVSSYLEGQAAKEFLIWLK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFLIWLK 28
```

```
RESULT 6
US-10-125-255-1
? Sequence 1, Application US/10/125,255
? Patent No. US20020165342A1
? GENERAL INFORMATION:
? APPLICANT: Galloway, John A
? APPLICANT: Hoffmann, James A
? TITLE OF INVENTION: Glucagon-like Insulinotropic Peptides, Compositions and Methods
? FILE REFERENCE: X-9332E
? CURRENT APPLICATION NUMBER: US/10/125,255
? PRIOR FILING DATE: 2002-04-17
? PRIOR APPLICATION NUMBER: 09/573,809
? PRIOR FILING DATE: 2000-05-18
? NUMBER OF SEQ ID NOS: 1
? SOFTWARE: Patent in version 3.1
? SEQ ID NO 1
```


1 CURRENT APPLICATION DATA:
2 APPLICATION NUMBER: US/08/472,349
3 FILING DATE:
4 CLASSIFICATION: 514
5 PRIOR APPLICATION DATA:
6 APPLICATION NUMBER: US/08/181,655
7 FILING DATE:
8 ATTORNEY/AGENT INFORMATION:
9 NAME: Sheyke, Robert F.
10 REGISTRATION NUMBER: 31,304
11 REFERENCE/Docket NUMBER: PCA391
12 TELECOMMUNICATION INFORMATION:
13 TELEPHONE: (212)573-1189
14 TELEFAX: (212)573-1939
15 TELEX: N/A
16 INFORMATION FOR SEQ ID NO: 5:
17 SEQUENCE CHARACTERISTICS:
18 LENGTH: 28 amino acids
19 TYPE: amino acid
20 STRANDEDNESS: single
21 TOPOLOGY: linear
22 MOLECULE TYPE: peptide
23 HYPOTHEICAL: NO
24 ANTI-SENSE: NO
25 FRAGMENT TYPE: N-terminal
26 ORIGINAL SOURCE:
27 ORGANISM: N/A
28 STRAIN: N/A
29 INDIVIDUAL ISOLATE: N/A
30 HAPLOTYPE: N/A
31 CELL LINE: N/A
32 IMMEDIATE SOURCE:
33 LIBRARY: N/A
34 CLONE: N/A
35 POSITION IN GENOME:
36 CHROMOSOME/SEGMENT: N/A
37 MAP POSITION: N/A
38 US-08-472-349-5

Query Match 99.3% Score 144; DB 4; Length 28;
Best Local Similarity 100.0%; Pred. No. 1,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLPGQAQKEFIAMLVK 28
DB 1 HAEGFTSDVSSYLEGQAQKEFIAMLVK 28

RESULT 5
US-09-209-799D-8
Sequence 8, Application US/09/209799D
Patent No. 6380357
GENERAL INFORMATION:
APPLICANT: Hermeling, Ronald
APPLICANT: Hoffmann, James
TITLE OF INVENTION: GUT-PROTON-LIKE PEPTIDE-1 CRYSTALS
FILE REFERENCE: X-10242
CURRENT APPLICATION NUMBER: US/09/209,799D
CURRENT FILING DATE: 1998-12-11
NUMBER OF SEQ ID NOS: 29
SOFTWARE: Patent version 3.0
SEQ ID NO 8
LENGTH: 28
TYPE: PRT
ORGANISM: Artificial
FEATURE:
OTHER INFORMATION: Synthetic construct
US-09-209-799D-8

Query Match 99.3% Score 144; DB 4; Length 28;
Best Local Similarity 100.0%; Pred. No. 1,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLPGQAQKEFIAMLVK 28
DB 1 HAEGFTSDVSSYLEGQAQKEFIAMLVK 28

RESULT 6
US-09-505-991-4
Sequence 4, Application US/09/505991
Patent No. 6403361
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
Stout, Jay
Henriksen, Dennis
Partridge, Bruce
Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESSES:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 6403361west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.10
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/505,991
FILING DATE: 17-Feb-2000
CLASSIFICATION: Unknown
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/520,485
FILING DATE: Unknown
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/Docket NUMBER: 8648.32-USD1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 28 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GLP1 (7-34)
SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-09-505-991-4

Query Match 99.3% Score 144; DB 4; Length 28;
Best Local Similarity 100.0%; Pred. No. 1,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLPGQAQKEFIAMLVK 28
DB 1 HAEGFTSDVSSYLEGQAQKEFIAMLVK 28

RESULT 7
US-09-212-663-5
Sequence 5, Application US/09/212663
Patent No. 6461834
GENERAL INFORMATION:
APPLICANT: DORMADY, Dan
APPLICANT: STOUT, Jay S.
APPLICANT: STRYDOM, Daniel J.

APPLICANT: HOLMQUIST, Barton
APPLICANT: WAGNER, Fred W.
TITLE OF INVENTION: ENZYMATIC AMIDATION OF PEPTIDES
FILE REFERENCE: 089187/0162
CURRENT APPLICATION NUMBER: US/09/212,663
CURRENT FILING DATE: 1998-12-16
PRIOR APPLICATION NUMBER: US 60/107,311
NUMBER OF SEQ ID NOS: 25
SOFTWARE: Patent In Ver. 2.0
SEQ ID NO 5
LENGTH: 28
TYPE: PRT
ORGANISM: Escherichia coli
US-09-212-663-5

Query Match 99.3%; Score 144; DB 4; Length 28;
Best Local Similarity 100.0%; Pred. No. 1.1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEFTSDVSSYLEQAAKEFIAMLVK 28
DB 1 HAEFTSDVSSYLEQAAKEFIAMLVK 28

RESULT 8
PCT-US95-15800-21
Sequence 21, Application PC/TUS9515800

GENERAL INFORMATION:
APPLICANT: Atomskaska, Inc.
TITLE OF INVENTION: PRODUCTION OF PEPTIDES USING
NUMBER OF INVENTION: RECOMBINANT FUSION PROTEIN CONSTRUCTS
NUMBER OF SEQUENCES: 33
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 Northwest Center, 90 S. 7th Street
CITY: Minneapolis
STATE: MN
COUNTRY: U.S.A.
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: diskette
OPERATING SYSTEM: DOS
SOFTWARE: FASTSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/15800
FILING DATE: 07-DEC-1995
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/350,530
FILING DATE: 07-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.45USWO
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612/332-5300
TELEFAX: 612/332-9081
TELEX:

INFORMATION FOR SEQ ID NO: 21:
SEQUENCE CHARACTERISTICS:
LENGTH: 28 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: internal
ORIGINAL SOURCE:
PCT-US95-15800-21

Query Match 99.3%; Score 144; DB 5; Length 28;
Best Local Similarity 100.0%; Pred. No. 1.1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEFTSDVSSYLEQAAKEFIAMLVK 28
DB 1 HAEFTSDVSSYLEQAAKEFIAMLVK 28

RESULT 9
US-08-095-162-18

Sequence 18, Application US/08095162
Patent No. 5512459

GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 5512459west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402

COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
OPERATING SYSTEM: IBM PC compatible
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/095,162
FILING DATE: 20-JUL-1993
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Nelson, Albin J.
REGISTRATION NUMBER: 28,659
REFERENCE/DOCKET NUMBER: 8648.32-US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081

INFORMATION FOR SEQ ID NO: 18:
SEQUENCE CHARACTERISTICS:
LENGTH: 29 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-095-162-18

Query Match 99.3%; Score 144; DB 1; Length 29;
Best Local Similarity 100.0%; Pred. No. 1.1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEFTSDVSSYLEQAAKEFIAMLVK 28
DB 1 HAEFTSDVSSYLEQAAKEFIAMLVK 28

RESULT 10

US-08-470-220A-18
Sequence 18, Application US/08470220A

Patent No. 5707826
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of

LENGTH: 30
TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: MOD_RES
LOCATION (10) (10)
OTHER INFORMATION: The arginine residue at position 30 is modified so as to replace
OTHER INFORMATION: the terminal carboxyl group with an amine.
US-10-125-255-1

Query Match 99.3%; Score 144; DB 9; Length 30;
Best Local Similarity 100.0%; Pred. No. 4.5e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAARKEFIAMLVK 28
DB 1 HAEGFTSDVSSYLEGQAARKEFIAMLVK 28

RESULT 7
US-09-834-229A-5
Sequence 5, Application US/09834229A
Publication No. US2003002823A1
GENERAL INFORMATION:
APPLICANT: Etefedic, Suad
TITLE OF INVENTION: USE OF GIP-1 OR ANALOGS IN TREATMENT OF MYOCARDIAL INFARCTION
FILE REFERENCE: X-10822A
CURRENT APPLICATION NUMBER: US/09/834,229A
CURRENT FILING DATE: 2001-04-12
PRIOR APPLICATION NUMBER: US 08/915,918
PRIOR FILING DATE: 1997-08-21
PRIOR APPLICATION NUMBER: US 06/024,980
PRIOR FILING DATE: 1996-08-30
NUMBER OF SEQ ID NOS: 6
SOFTWARE: PatentIn version 3.1
SEQ ID NO 5
LENGTH: 30
TYPE: PRT
ORGANISM: Artificial sequence
FEATURE:
OTHER INFORMATION: synthetic construct
US-09-834-229A-5

Query Match 99.3%; Score 144; DB 9; Length 30;
Best Local Similarity 100.0%; Pred. No. 4.5e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAARKEFIAMLVK 28
DB 1 HAEGFTSDVSSYLEGQAARKEFIAMLVK 28

RESULT 8
US-09-997-792-10
Sequence 10, Application US/09997792
Publication No. US2003004546A1
GENERAL INFORMATION:
APPLICANT: Hermeleing, Ronald
APPLICANT: Hoffmann, James
APPLICANT: Narasimhan, Chakravarthy
TITLE OF INVENTION: GUDACAGON-LIKE PEPTIDE-1 CRYSTALS
FILE REFERENCE: X-10242
CURRENT APPLICATION NUMBER: US/09/397,792
CURRENT FILING DATE: 2001-11-30
NUMBER OF SEQ ID NOS: 29
SOFTWARE: PatentIn version 3.0
SEQ ID NO 10
LENGTH: 30
TYPE: PRT
ORGANISM: Artificial sequence
FEATURE:
OTHER INFORMATION: synthetic construct
US-09-997-792-10

Query Match 99.3%; Score 144; DB 9; Length 30;
Best Local Similarity 100.0%; Pred. No. 4.5e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAARKEFIAMLVK 28
DB 1 HAEGFTSDVSSYLEGQAARKEFIAMLVK 28

RESULT 9
US-10-091-258-4
Sequence 4, Application US/10091258
Publication No. US20030073626A1
GENERAL INFORMATION:
APPLICANT: Hathaway, David R
APPLICANT: Coolidge, Thomas R
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING PERIPHERAL VASCULAR DIS
FILE REFERENCE: RCN-2
CURRENT APPLICATION NUMBER: US/10/091,258
CURRENT FILING DATE: 2002-03-05
NUMBER OF SEQ ID NOS: 13
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 30
TYPE: PRT
ORGANISM: mammalian
US-10-091-258-4

Query Match 99.3%; Score 144; DB 9; Length 30;
Best Local Similarity 100.0%; Pred. No. 4.5e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAARKEFIAMLVK 28
DB 1 HAEGFTSDVSSYLEGQAARKEFIAMLVK 28

RESULT 10
US-09-851-738-4
Sequence 4, Application US/09851738
Patent No. US20020055460A1
GENERAL INFORMATION:
APPLICANT: Coolidge, Thomas R.
APPLICANT: Ehlers, Mario R.W.
TITLE OF INVENTION: Metabolic Intervention with GIP-1 to Improve the Function o
TITLE OF INVENTION: Ischemic and Reperfused Tissue
FILE REFERENCE: P03660DS1
CURRENT APPLICATION NUMBER: US/09/851,738
CURRENT FILING DATE: 2001-05-09
PRIOR APPLICATION NUMBER: 09/302,596
PRIOR FILING DATE: 1999-04-30
NUMBER OF SEQ ID NOS: 13
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 4
LENGTH: 30
TYPE: PRT
ORGANISM: mammalian
US-09-851-738-4

Query Match 99.3%; Score 144; DB 10; Length 30;
Best Local Similarity 100.0%; Pred. No. 4.5e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAARKEFIAMLVK 28
DB 1 HAEGFTSDVSSYLEGQAARKEFIAMLVK 28

RESULT 11
US-09-805-507-4
Sequence 4, Application US/09805507
Patent No. US20020098195A1

GENERAL INFORMATION:
APPLICANT: COOLIDGE, THOMAS R.
TITLE OF INVENTION: TREATMENT OF ACUTE CORONARY SYNDROME WITH GLP-1
FILE REFERENCE: 089187/0395
CURRENT APPLICATION NUMBER: US/09/805,507
PRIOR FILING DATE: 2001-03-14
PRIOR APPLICATION NUMBER: 09/859,804
NUMBER OF SEQ ID NOS: 13
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 4
LENGTH: 30
TYPE: PPT
ORGANISM: Unknown Organism
FEATURE:
OTHER INFORMATION: Description of Unknown Organism: Mammalian GLP
US-09-805-507-4

Query Match 99.3%; Score 144; DB 10; Length 30;
Best Local Similarity 100.0%; Pred. No. 4,5e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28

RESULT 12
US-09-859-804-4
Sequence 4, Application US/09859804
Patent No. US20020107206A1
GENERAL INFORMATION:
APPLICANT: COOLIDGE, THOMAS R.
TITLE OF INVENTION: TREATMENT OF ACUTE CORONARY SYNDROME WITH GLP-1
FILE REFERENCE: 089187/0395
CURRENT APPLICATION NUMBER: US/09/859,804
PRIOR FILING DATE: 2001-03-14
PRIOR APPLICATION NUMBER: 60/205,239
NUMBER OF SEQ ID NOS: 13
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 4
LENGTH: 30
TYPE: PPT
ORGANISM: Unknown Organism
FEATURE:
OTHER INFORMATION: Description of Unknown Organism: Mammalian GLP
US-09-859-804-4

Query Match 99.3%; Score 144; DB 10; Length 30;
Best Local Similarity 100.0%; Pred. No. 4,5e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28

RESULT 13
US-09-982-978-4
Sequence 4, Application US/09982978
Patent No. US20020146405A1
GENERAL INFORMATION:
APPLICANT: COOLIDGE, THOMAS R.
TITLE OF INVENTION: TREATMENT OF ACUTE CORONARY SYNDROME WITH GLP-1
FILE REFERENCE: 089187/0395
CURRENT APPLICATION NUMBER: US/09/982,978
NUMBER OF SEQ ID NOS: 13
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 4
LENGTH: 30
TYPE: PPT
ORGANISM: Unknown Organism
FEATURE:
OTHER INFORMATION: Description of Unknown Organism: Mammalian GLP
US-09-982-978-4

PRIOR APPLICATION NUMBER: 09/859,804
PRIOR FILING DATE: 2001-05-18
PRIOR APPLICATION NUMBER: 60/205,239
PRIOR FILING DATE: 2000-05-19
NUMBER OF SEQ ID NOS: 13
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 4
LENGTH: 30
TYPE: PPT
ORGANISM: Unknown Organism
FEATURE:
OTHER INFORMATION: Description of Unknown Organism: Mammalian GLP
US-09-982-978-4

Query Match 99.3%; Score 144; DB 10; Length 30;
Best Local Similarity 100.0%; Pred. No. 4,5e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28

RESULT 14
US-09-953-021B-4
Sequence 4, Application US/09953021B
Patent No. US20020147131A1
GENERAL INFORMATION:
APPLICANT: COOLIDGE, THOMAS R.
TITLE OF INVENTION: Metabolic Intervention with GLP-1 to Improve the Function of
FILE REFERENCE: P03660056
CURRENT APPLICATION NUMBER: US/09/953,021B
PRIOR FILING DATE: 2001-09-11
PRIOR APPLICATION NUMBER: 09/302,596
PRIOR FILING DATE: 1999-04-30
NUMBER OF SEQ ID NOS: 13
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 4
LENGTH: 30
TYPE: PPT
ORGANISM: Homo sapiens
US-09-953-021B-4

Query Match 99.3%; Score 144; DB 10; Length 30;
Best Local Similarity 100.0%; Pred. No. 4,5e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28

RESULT 15
US-10-072-540A-4
Sequence 4, Application US/10072540A
Patent No. US20020123466A1
GENERAL INFORMATION:
APPLICANT: Hoffmann, James
TITLE OF INVENTION: GLP-1 FORMULATIONS
FILE REFERENCE: X-11368A
CURRENT APPLICATION NUMBER: US/10/072,540A
PRIOR FILING DATE: 2002-02-08
PRIOR APPLICATION NUMBER: US 60/067,600
NUMBER OF SEQ ID NOS: 5
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 30
TYPE: PPT
ORGANISM: Homo sapiens

```

: TITLE OF INVENTION: Recombinant Polypeptides
: NUMBER OF SEQUENCES: 26
: CORRESPONDENCE ADDRESS:
: ADDRESSEE: Merchant & Gould
: STREET: 3100 No. 5707826west Center
: CITY: Minneapolis
: STATE: MN
: COUNTRY: USA
: ZIP: 55402
: COMPUTER READABLE FORM:
: MEDIUM TYPE: floppy disk
: OPERATING SYSTEM: PC-DOS/MS-DOS
: SOFTWARE: Patent Release #1.0, Version #1.25
: CURRENT APPLICATION DATA:
: APPLICATION NUMBER: US/08/470,220A
: FILING DATE: 06-JUN-1995
: CLASSIFICATION: 435
: PRIORITY APPLICATION DATA:
: APPLICATION NUMBER: US 08/095,162
: FILING DATE: 20-JUL-1993
: ATTORNEY/AGENT INFORMATION:
: NAME: Nelson, Albin J.
: REGISTRATION NUMBER: 28,659
: REFERENCE/DOCKET NUMBER: 8648.32-US01
: TELECOMMUNICATION INFORMATION:
: TELEPHONE: 612-332-5300
: TELEFAX: 612-332-9081
: INFORMATION FOR SEQ ID NO: 18:
: SEQUENCE CHARACTERISTICS:
: LENGTH: 29 amino acids
: TYPE: amino acid
: TOPOLOGY: linear
: MOLECULE TYPE: peptide
: US-08-470-220A-18

Query Match          99.3%  Score 144:  DB 1:  Length 29:
Best Local Similarity 100.0%  Prid No. 1,1e-14:
Matches 28, Conservative 0, Mismatches 0, Indels 0, Gaps 0:

QY 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28
: ||||||||||||||||||||||||||||
Db 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28

RHS001.11
US-08-967-374-18
: Sequence 18, Application US/08967374
: Patent No. 6037143
: GENERAL INFORMATION:
: APPLICANT: Wagner, Fred W.
: APPLICANT: Stout, Jay
: APPLICANT: Henriksen, Dennis
: APPLICANT: Partridge, Bruce
: APPLICANT: Manning, Shane
: TITLE OF INVENTION: Enzymatic Method for Modification of
: RECOMBINANT POLYPEPTIDES
: NUMBER OF SEQUENCES: 26
: CORRESPONDENCE ADDRESS:
: ADDRESSEE: Merchant & Gould
: STREET: 3100 No. 6037143west Center
: CITY: Minneapolis
: STATE: MN
: COUNTRY: USA
: ZIP: 55402
: COMPUTER READABLE FORM:
: MEDIUM TYPE: floppy disk
: OPERATING SYSTEM: PC-DOS/MS-DOS
: SOFTWARE: Patent Release #1.0, Version #1.30
: CURRENT APPLICATION DATA:
: APPLICATION NUMBER: US/08/967,374
: FILING DATE:

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: CLASSIFICATION:
: PRIORITY APPLICATION DATA:
: APPLICATION NUMBER: 08/520,485
: FILING DATE: 29-AUG-1995
: ATTORNEY/AGENT INFORMATION:
: NAME: Carter, Charles G.
: REGISTRATION NUMBER: 35,093
: REFERENCE/DOCKET NUMBER: 8648.32-US01
: TELECOMMUNICATION INFORMATION:
: TELEPHONE: 612-332-5300
: TELEFAX: 612-332-9081
: INFORMATION FOR SEQ ID NO: 18:
: SEQUENCE CHARACTERISTICS:
: LENGTH: 29 amino acids
: TYPE: amino acid
: TOPOLOGY: linear
: MOLECULE TYPE: peptide
: US-08-967-374-18

Query Match          99.3%  Score 144:  DB 3:  Length 29:
Best Local Similarity 100.0%  Prid No. 1,1e-14:
Matches 28, Conservative 0, Mismatches 0, Indels 0, Gaps 0:

QY 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28
: ||||||||||||||||||||||||||||
Db 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28

RESULT 12
US-08-472-349-4
: Sequence 4, Application US/08472349
: Patent No. 6284727
: GENERAL INFORMATION:
: APPLICANT: Kim, Yesook
: APPLICANT: Lambert, William J.
: APPLICANT: Qi, Hong
: APPLICANT: Gelland, Robert A.
: APPLICANT: Geodhegan, Kieran F.
: APPLICANT: Danley, Dennis R.
: TITLE OF INVENTION: Prolonged Delivery of Peptides
: NUMBER OF SEQUENCES: 7
: CORRESPONDENCE ADDRESS:
: ADDRESSEE: Pfizer Inc
: STREET: 235 East 42nd Street, 20th Floor
: CITY: New York
: STATE: New York
: COUNTRY: U.S.A.
: ZIP: 10017-5755
: COMPUTER READABLE FORM:
: MEDIUM TYPE: floppy disk
: OPERATING SYSTEM: PC-DOS/MS-DOS
: SOFTWARE: Patent Release #1.0, Version #1.25
: CURRENT APPLICATION DATA:
: APPLICATION NUMBER: US/08/472,349
: FILING DATE:
: CLASSIFICATION: 514
: PRIORITY APPLICATION DATA:
: APPLICATION NUMBER: US/08/181,655
: FILING DATE:
: ATTORNEY/AGENT INFORMATION:
: NAME: Sheyka, Robert F.
: REGISTRATION NUMBER: 31,304
: REFERENCE/DOCKET NUMBER: PC8391
: TELECOMMUNICATION INFORMATION:
: TELEPHONE: (212)573-1189
: TELEFAX: (212)573-1939
: TELETYPE: N/A
: INFORMATION FOR SEQ ID NO: 4:
: SEQUENCE CHARACTERISTICS:
: LENGTH: 29 amino acids
: TYPE: amino acid
: STRANDEDNESS: single

```

? TOPOLOGY: linear
 ? MOLECULE TYPE: peptide
 ? HYDROPHETICAL: NO
 ? ANTI SENSE: NO
 ? FRAGMENT TYPE: N-terminal
 ? ORIGINAL SOURCE:
 ? ORGANISM: N/A
 ? STRAIN: N/A
 ? INDIVIDUAL ISOLATE: N/A
 ? HAPLOTYPE: N/A
 ? CELL LINE: N/A
 ? IMMEDIATE SOURCE:
 ? LIBRARY: N/A
 ? CLONE: N/A
 ? POSITION IN GENOME:
 ? CHROMOSOME/SEGMENT:
 ? MAP POSITION: N/A
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 ? US-08-472-149-4

Query Match 99.3%; Score 144; DB 4; Length 29;
 Host Local Similarity 100.0%; Pred. No. 1,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAKEFIAMLVK 28
 DB 1 HAEGFTSDVSSYLEGQAKEFIAMLVK 28

RESULT 13
 US-09-209-799D-9
 ? Sequence 9; Application US/0920799D
 ? Patent No. 6380357
 ? GENERAL INFORMATION:
 ? APPLICANT: Hermeling, Ronald
 ? APPLICANT: Hoffmann, James
 ? APPLICANT: Narasimhan, Chakravarti
 ? TITLE OF INVENTION: GLUCAGON-LIKE PEPTIDE-1 CRYSTALS
 ? FILE REFERENCE: X-10242
 ? CURRENT APPLICATION NUMBER: US/09/209,799D
 ? CURRENT FILING DATE: 1998-12-11
 ? NUMBER OF SEQ ID NOS: 29
 ? SOFTWARE: PatentIn version 3.0
 ? SEQ ID NO 9
 ? LENGTH: 29
 ? TYPE: PRT
 ? ORGANISM: Artificial
 ? FEATURES:
 ? OTHER INFORMATION: synthetic construct
 ?
 ? US-09-209-799D-9

Query Match 99.3%; Score 144; DB 4; Length 29;
 Host Local Similarity 100.0%; Pred. No. 1,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAKEFIAMLVK 28
 DB 1 HAEGFTSDVSSYLEGQAKEFIAMLVK 28

RESULT 14
 US-09-505-991-18
 ? Sequence 18; Application US/09505991
 ? Patent No. 6403361
 ? GENERAL INFORMATION:
 ? APPLICANT: Wagner, Fred W.
 ? APPLICANT: Stout, Jay
 ? APPLICANT: Henriksen, Dennis
 ? APPLICANT: Partidge, Bruce
 ? APPLICANT: Manning, Shane
 ? TITLE OF INVENTION: Enzymatic Method for Modification of
 ? RECOMBINANT POLYPEPTIDES
 ? NUMBER OF SEQUENCES: 26
 ? CORRESPONDENCE ADDRESS:

ADDRESSEE: Merchant & Gould
 STREET: 3100 No. 5403361west Center
 CITY: Minneapolis
 STATE: MN
 COUNTRY: USA
 ZIP: 55402

COMPUTER READABLE FORM:
 MEDIUM TYPE: Floppy disk
 COMPUTER: IBM PC compatible
 OPERATING SYSTEM: PC-DOS/MS-DOS
 SOFTWARE: PatentIn Release #1.0, Version #1.30
 CURRENT APPLICATION DATA:
 APPLICATION NUMBER: US/09/505,991
 FILING DATE: 17-Feb-2000
 CLASSIFICATION: <Unknown>

PRIORITY APPLICATION DATA:
 APPLICATION NUMBER: 08/520,485
 FILING DATE: <Unknown>

ATTORNEY/AGENT INFORMATION:
 NAME: Carter, Charles G.
 REGISTRATION NUMBER: 35,093

TELEPHONE: 612-332-5300
 TELEFAX: 612-332-9081

INFORMATION FOR SEQ ID NO: 1A:
 SEQUENCE CHARACTERISTICS:
 LENGTH: 29 amino acids
 TYPE: amino acid
 TOPOLOGY: linear

MOLECULE TYPE: peptide
 SEQUENCE DESCRIPTION: SEQ ID NO: 1A:
 US-09-505-991-18

Query Match 99.3%; Score 144; DB 4; Length 29;
 Best Local Similarity 100.0%; Pred. No. 1,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAKEFIAMLVK 28
 DB 1 HAEGFTSDVSSYLEGQAKEFIAMLVK 28

RESULT 15
 US-08-066-480-6
 ? Sequence 6; Application US/08066480
 ? Patent No. 5424286

? GENERAL INFORMATION:
 ? APPLICANT: Eng, John
 ? TITLE OF INVENTION: Pharmaceutical Compositions And Use of
 ? EXTENSION 3 and Extension 4 for Treatment of Diabetes Mellitus
 ? NUMBER OF SEQUENCES: 7
 ? CORRESPONDENCE ADDRESS:
 ADDRESSEE: Allegretti & Wilcoff, Ltd.
 STREET: 10 S. Wacker Drive
 CITY: Chicago
 STATE: Illinois
 COUNTRY: USA
 ZIP: 60606

COMPUTER READABLE FORM:
 MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible
 OPERATING SYSTEM: PC-DOS/MS-DOS
 SOFTWARE: PatentIn Release #1.0, Version #1.25
 CURRENT APPLICATION DATA:
 APPLICATION NUMBER: US/08/066,480
 FILING DATE: 24-MAR-1993

CLASSIFICATION: 514
 ATTORNEY/AGENT INFORMATION:
 NAME: McDonnell, John J.
 REGISTRATION NUMBER: 26,949

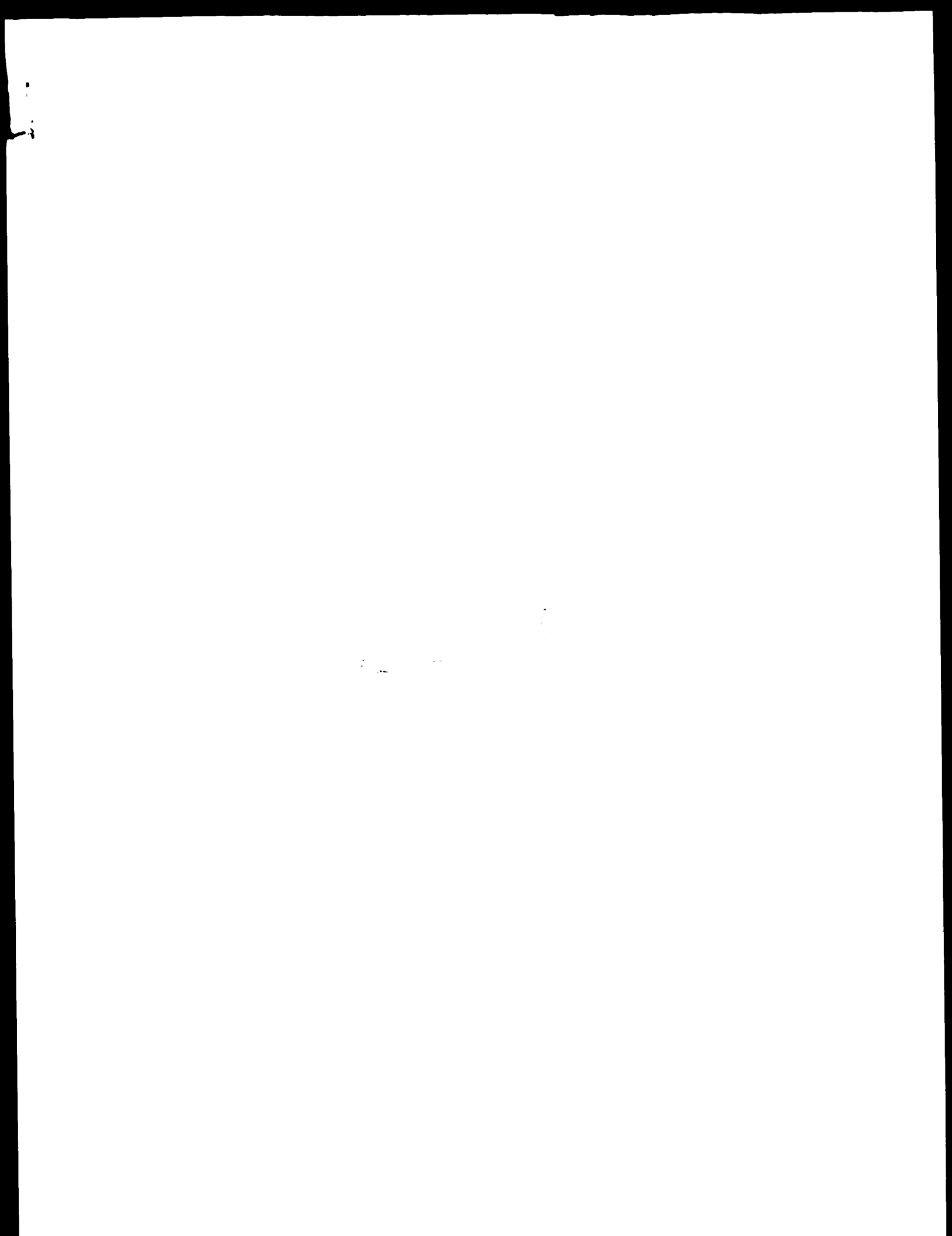
REFERENCE/DOCKET NUMBER: 93,084
 TELECOMMUNICATION INFORMATION:

TELEPHONE: 312-715-1000
TELEFAX: 312-715-1234
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
NAME/KEY: Peptide
LOCATION: 1..30
OTHER INFORMATION: /label=GLP-1-7-36
OTHER INFORMATION: /note="GLP-1(7-36) fragment."
US-08-066-480-6

Query Match 99.3%, Score 144, DB 1, Length 30,
Best Local Similarity 100.0%; Pred. No. 1, 2e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAAGTFTSDVSSYLEGQAAKEFIAWLVK 28
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DB 1 HAAGTFTSDVSSYLEGQAAKEFIAWLVK 28

Search completed: May 13, 2003, 09:34:10
Job time: 20.678 secs

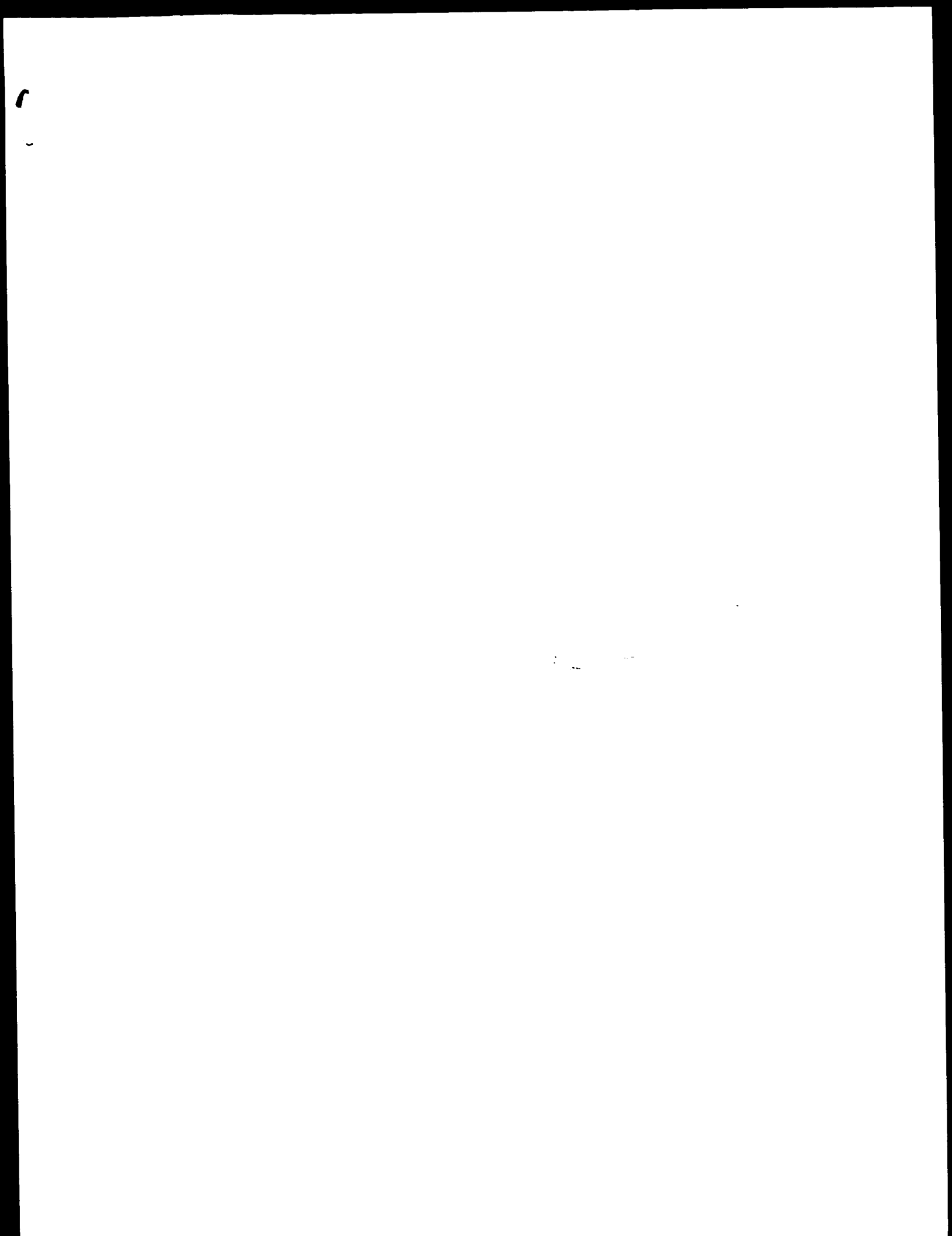


FEATURE:
 NAME/KEY: MOD_RES
 LOCATION: (30) (30)
 OTHER INFORMATION: AMILATION
 US-10-072-340A-4

Query Match: 99.38; Score 144; BH 12; Length 30;
 Best Local Similarity 100.00; Pred. No. 4.5e-15;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGITSDVSSYLEGQAKERIALVK 28
 ||||||||||||||||||
 DB 1 HAEGITSDVSSYLEGQAKERIALVK 28

Search completed: May 13, 2003, 09:36:46
 Job time: 14.7458 secs



GenCore version 5.1.4.05_4578
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nm protein - protein search, using sw model

Run on: May 13, 2003, 09:13:33; Search time 26.0508 seconds

(without alignments)
107,018 Million cell updates/sec

Title: US-09-868-974-2

Perfect score: 145

Sequence: 1 HAEGFTSDVSSYLEGQAKKEFIAMLVKX 29

Scoring table:

BIOSUM62
Gapop 10.0, Gapext 0.5

Searched: 283,224 seqs, 96,144,422 residues

Total number of hits satisfying chosen parameters: 283,224

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Database:

Listing first 45 summaries
PIR_73**
1: p1r1**
2: p1r2**
3: p1r3**
4: p1r4**

pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution

SUMMARIES

Result No	Score	Query Match	Length	DR	ID	Description
1	144	99.3	158	1	GPCG	glucagon precursor
2	144	99.3	180	1	GCNU	glucagon precursor
3	144	99.3	180	1	GCGB	glucagon precursor
4	144	99.3	180	1	GCRTM	glucagon precursor
5	144	99.3	180	1	GCRT	glucagon precursor
6	144	99.3	180	1	GCRT	glucagon precursor
7	144	99.3	180	1	GCRT	glucagon precursor
8	144	99.3	180	1	GCRT	glucagon precursor
9	132	91.0	151	1	GCCH	glucagon precursor
10	132	91.0	206	2	IS1301	proglucagon
11	118	81.4	30	2	B41125	glucagon-like pep
12	118	81.4	30	2	B41125	glucagon-like pep
13	118	81.4	101	1	GCPCB	glucagon precursor
14	112	77.2	63	1	GCPCB	glucagon precursor
15	112	77.2	122	1	GCAP2	glucagon precursor
16	110	75.9	72	1	GCXNA	glucagon precursor
17	109	75.2	66	2	IS1093	glucagon
18	109	75.2	178	2	IS1058	glucagon
19	109	75.2	178	2	IS1057	glucagon
20	104	71.7	30	2	S44473	glucagon-like pep
21	104	71.7	60	1	GCUNC	glucagon precursor
22	97	66.9	29	2	S07211	glucagon
23	97	66.9	87	1	GCPLS	glucagon precursor
24	95	65.5	29	1	GCPLS	glucagon precursor
25	93	64.1	29	1	GCPLS	glucagon precursor
26	93	64.1	124	1	GCPLS	glucagon precursor
27	90	62.1	29	2	GCPLV	glucagon
28	90	62.1	29	2	GCPLV	glucagon
29	90	62.1	29	2	GCPLV	glucagon

30	90	62.1	29	2	A91742	glucagon - Arabian
31	90	62.1	29	2	C99258	glucagon - common
32	90	62.1	31	2	S44472	glucagon G2 - North
33	90	62.1	64	1	GCPLS	glucagon - dog
34	88	60.7	29	1	GCPLS	glucagon - duck
35	88	60.7	29	1	A61583	glucagon - estrich
36	88	60.7	29	1	GCPLS	glucagon - slider
37	88	60.7	29	1	GCPLS	glucagon I - Europ
38	88	60.7	31	2	S44471	glucagon G1 - North
39	87	60.0	29	1	GCPLS	glucagon - Chinese
40	86	59.3	29	1	GCPLS	glucagon - Europe
41	86	59.3	29	2	A61135	glucagon - biotype
42	83	57.2	29	2	S39018	glucagon - bowlin
43	83	57.2	39	1	HMCH45	exendin-4 - Glia m
44	81	55.9	39	1	HMCH45	exendin-4 - Glia m
45	79	54.5	36	1	GCPLS	glucagon-36 - Mexico

ALIGNMENTS

RESULT 1

GCPC

glucagon precursor - pig (fragment)

N:Alternate names: glucagon; oxyntomodulin

N:Contains: glucagon-related peptides, glucagon

C:Species: Sus scrofa domestica (domestic pig)

C>Date: 17 Dec 1982 #sequence revision 31-Mar-1993 #text change 20-Mar-1998

C:Accession: A01540; A60312; A91781; B32614; A28064

R:Title: L. Moody, A. J.

Regul Pept 2, 139-150, 1981

A:Title: The primary structure of porcine glucagon (proglucagon)

A:Reference number: A94233; M01D:81248172; PMID:6894800

A:Accession: A01540

A:Molecule type: protein

A:Residues: 1-69 <TH>

R:Title: L. Moody, A. J.

Regul Pept Suppl 2, S33, 1983

A:Title: Primary structure of a possible porcine proglucagon fragment.

A:Reference number: A60312

A:Accession: A01540

A:Molecule type: protein

A:Residues: 1-30 <TH>

A:Note: this peptide is co-secreted with glucagon from the pancreas

R:Title: W. J. Sim, L. G. Bohrens, O. K.

J. Am. Chem. Soc. 79, 2807-2810, 1957

A:Title: The amino acid sequence of glucagon. V. Location of amide groups, acid degr

A:Reference number: A91781

A:Accession: A91781

A:Molecule type: protein

A:Residues: 1-61 <TH>

R:Title: C. J. Betsworth, M. J. Johnson, A. H., Hujar, P. J. Holst, J. J.

J. Biol. Chem. 264, 12826-12829, 1989

A:Title: Complete sequences of glucagon-like peptide-1 from human and pig small inte

A:Reference number: A92733; M01D:84327246; PMID:2753690

A:Accession: B32614

A:Molecule type: protein

A:Residues: 78-107 <TH>

R:Title: T. Thim, L. Kofsky, H. Orskov, C. Hartling, H. Holst, J. J.

J. Biol. Chem. 264, 6414-6414, 1989

A:Title: Naturally occurring products of proglucagon (11-150) in the porcine and huma

A:Reference number: A28064; M01D:86249112; PMID:3370006

A:Accession: A28064

A:Molecule type: protein

A:Residues: 111-158 <TH>

C:Comment: X's represent missing amino acids, mostly basic, that are predicted to be

C:Keywords: amidated, rat, rat, carbohydrate metabolism, digestion, hormone, in

F:1-69/Product: glucagon-69 #status experimental <CG>

F:1-30/Product: glucagon-30 #status experimental

F:33-69/Product: glucagon-37 #status predicted <CG>

F:33-61/Product: glucagon #status experimental <CG>

F:78-107/Product: glucagon like peptide 1 #status experimental <GL>

F:126 158/Product: glucagon-like peptide 2 *status experimental <GL2>
 F:107/Modified site: amidated carboxyl end (Arg) (amide in mature form from following 91

Query Match 99.18% Score 144; DB 1; Length 158,
 Best Local Similarity 100.0%; Pred. No. 1,3e-13;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

UY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
 |||||||
 DB 78 HAEGFTSDVSSYLEGQAAKEFIAWLK 105

RESULT 2

glucagon precursor [validated] - human
 N:Contains: glicentin; glicentin-related polypeptide (GRPP), glucagon, glucagon-like peptide 1 (GLP1)
 C:Species: Homo sapiens (man)
 C:Date: 24-Apr-1984 #sequence, revision 31-Mar-1993 #text_change 08-Dec-2000
 C:Accession: A24377; A44197; A30875; A32614; A01541; S23309

K:White, J.W.; Saunders, G.P.
 Nucleic Acids Res. 14, 4719-4730, 1986

A:Title: Structure of the human glucagon gene.

A:Reference number: A24377; PMID:86259053; PMID:3725587

A:Accession: A24377

A:Molecule type: DNA

A:Residues: 1-180 <MD>

A:Cross-references: GR:003991

K:Bohl, C.I.; Sanchez-Pescador, R.; Laybourn, P.J.; Najarian, V.C.
 Nature 304, 368-371, 1983

A:Title: Exon duplication and divergence in the human preproglucagon gene.

A:Reference number: A44197; PMID:83271477; PMID:6877358

A:Accession: A44197

A:Molecule type: DNA

A:Residues: 1-179 <MD>

A:Cross-references: GR:001515; NID:911777; PTDN:GMA24759.1; PTD:913778

R:Drucker, D.J.; Asa, S.

J. Biol. Chem. 263, 13475-13478, 1988

A:Title: Glucagon gene expression in vertebrate brain.

A:Reference number: A30875; PMID:88330860; PMID:2901414

A:Accession: A30875

A:Molecule type: mRNA

A:Residues: 1-180 <MD>

A:Cross-references: GR:004949; NID:9183269; PTD:AA52567.1; PTD:9183270

R:Koskov, C.; Hirsant, M.; Johnson, A.H.; Hojrup, P.; Holst, J.J.

J. Biol. Chem. 264, 12826-12829, 1989

A:Title: Complete sequences of glucagon-like peptide-1 from human and pig small intestine.

A:Reference number: A92732; PMID:89327238; PMID:2753890

A:Accession: A92732

A:Molecule type: protein

A:Residues: 98-127 <MD>

R:Thomson, J.; Kristiansen, K.; Brunfeldt, K.; Sundby, F.

FEBS Lett. 21, 315-319, 1972

A:Title: The amino acid sequence of human glucagon.

A:Reference number: A91373

A:Accession: A91373

A:Molecule type: protein

A:Residues: 53-81 <MD>

R:Tsugita, A.; Takamoto, K.; Kame, M.; Iwade, H.

Eur. J. Biochem. 206, 691-696, 1992

A:Title: C-terminal sequencing of protein. A novel partial acid hydrolysis and analysis

A:Reference number: S23188; MUID:92298996; PMID:1606956

A:Accession: S23188

A:Molecule type: protein

A:Residues: 53-81 <MD>

C:Comment: In pancreatic alpha-cells, proglucagon is processed to glicentin-related polypeptide 1, glucagon-like peptide 1, glucagon-like peptide 2, and glucagon-like peptide 3.

A:Accession: S23309

A:Molecule type: protein

A:Residues: 53-81 <MD>

C:Comment: In pancreatic alpha-cells, proglucagon is processed to glicentin-related polypeptide 1, glucagon-like peptide 1, glucagon-like peptide 2, and glucagon-like peptide 3.

A:Accession: S23309

A:Molecule type: protein

A:Residues: 53-81 <MD>

C:Comment: In pancreatic alpha-cells, proglucagon is processed to glicentin-related polypeptide 1, glucagon-like peptide 1, glucagon-like peptide 2, and glucagon-like peptide 3.

A:Accession: S23309

A:Molecule type: protein

A:Residues: 53-81 <MD>

A:Cross-references: GDB:119265; OMIM:138030

A:Map position: 2q16-q17

A:Initons: 31/2; 85/2; 131/2; 179/2

C:Superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; intestine

F:1-20/Domain: signal sequence #status predicted <SIG>

F:21-180/Product: proglucagon #status experimental <PG>

F:21-89/Product: glicentin #status experimental <GIN>

F:21-50/Product: glicentin-related polypeptide #status predicted <GRPP>

F:53-89/Product: oxyntomodulin #status experimental <OXN>

F:53-81/Product: glucagon #status experimental <GCN>

F:92-178/Product: major proglucagon fragment #status experimental <MPGF>

F:92-127/Product: glucagon-like peptide 1 #status experimental <GL1>

F:98-127/Product: truncated glucagon-like peptide 1 #status experimental <TL1>

F:146-178/Product: glucagon-like peptide 2 #status predicted <GL2>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following 125

Query Match 99.3%; Score 144; DB 1; Length 180;
 Best Local Similarity 100.0%; Pred. No. 1.3e-13;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

UY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
 |||||||
 DB 98 HAEGFTSDVSSYLEGQAAKEFIAWLK 125

RESULT 3

glucagon precursor - guinea pig
 N:Alternate names: oxyntomodulin
 N:Contains: glicentin-related peptide; glucagon; glucagon 37 (oxyntomodulin); glucagon

C:Species: Cavia porcellus (guinea pig)

C:Date: 30-Sep-1987 #sequence, revision 31-Dec-1992 #text_change 16-Jun-2000

C:Accession: A24856; A23849; A60323

R:Seino, S.; Welsh, M.; Bell, G.I.; Chan, S.T.; Steiner, D.F.

FEBS Lett. 203, 25-30, 1986

A:Title: Mutations in the guinea pig preproglucagon gene are restricted to a specific

A:Reference number: A24856; MUID:86248118; PMID:3755107

A:Accession: A24856

A:Molecule type: mRNA

A:Residues: 1-180 <MD>

A:Cross-references: DBJ:000014; GR:000014; NID:9220288; PTD:BA00010.1; PTD:3220288

R:Hardy, C.G.; Eng, J.; Pan, Y.C.F.; Holmes, J.D.; Yalow, R.S.

Diabetes 35, 508-512, 1986

A:Title: Guinea pig glucagon differs from other mammalian glucagons.

A:Reference number: A36849; MUID:86165412; PMID:3456884

A:Accession: A36849

A:Molecule type: protein

A:Residues: 53-81 <MD>

R:Combs, J.M.; Hansen, H.F.; Schwartz, V.W.

Peptid. 11, 309-320, 1985

A:Title: Primary structure of glucagon and a partial sequence of oxyntomodulin (glucagon

A:Reference number: A60323; MUID:86017849; PMID:4048553

A:Accession: A60323

A:Molecule type: protein

A:Residues: 53-81 <CON>

A:Note: glucagon-37 was not completely sequenced

C:Superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancreas

F:1-20/Domain: signal sequence #status predicted <SIG>

F:21-180/Product: proglucagon #status predicted <PG>

F:21-89/Product: glicentin-related peptide #status predicted <GIN>

F:53-81/Product: oxyntomodulin #status experimental <OXN>

F:98-127/Product: glucagon #status experimental <GCN>

F:146-178/Product: glucagon-like peptide 1 #status predicted <GL1>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following 125

Query Match 99.3%; Score 144; DB 1; Length 180;
 Best Local Similarity 100.0%; Pred. No. 1.3e-13;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

UY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
 |||||||
 DB 98 HAEGFTSDVSSYLEGQAAKEFIAWLK 125

RESULT 4

GCBT0

glucagon precursor - dogu

N.Contains: glycinin-related peptide; glucagon-like peptide 1; glucagon-like peptide 2

C.Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #exl_change 18-Jun-1999

C.Accession: C36118

P.Nishi, M.; Steiner, D.F.

Mol. Endocrinol. 4, 1192-1198, 1990

A.Title: Cloning of complementary DNAs encoding islet amyloid polypeptide, insulin, and

A.Reference number: A36118; M01D:91155952; PMID:223424

A.Accession: C36118

A.Molecule type: mRNA

A.Cross-references: GR:M57688; M1D:9202467; PIDN:AA00568 1; PID:9202468

C.Superfamily: glucagon

C.Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancre

F:1-20/Domain: signal sequence #status predicted <SIG>

F:21-180/Product: proglucagon #status predicted <PRO>

F:21-50/Region: glycinin-related peptide #status predicted

F:53-81/Product: glucagon #status predicted <CON>

F:98-127/Product: glucagon like peptide 1 #status predicted <GL1>

F:146-178/Product: glucagon like peptide 2 #status predicted <GL2>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

Query Match 99.3%; Score 144; DB 1; Length 180;

Best Local Similarity 100.0%; Pred. No. 13e-13;

Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEFTSDVSSYLEGQAAKEFIAIWK 28

DB 98 HAEFTSDVSSYLEGQAAKEFIAIWK 125

RESULT 5

GCBT

glucagon precursor - rat

N.Contains: glycinin-related peptide; glucagon-like peptide 1; glucagon-like peptide 2

C.Date: 30-Sep-1987 #sequence_revision 30-Sep-1987 #exl_change 26-Feb-1999

C.Accession: A22655; A25190; A44198

R.Reinrich, G.; Gros, P.; Habener, J.F.

J. Biol. Chem. 259, 14082-14087, 1984

A.Title: Glucagon gene sequence: four of six exons encode separate functional domains of

A.Reference number: A22655; M01D:85054853; PMID:6094539

A.Accession: A22655

A.Molecule type: DNA

A.Residues: 1-180 <HE1>

A.Cross-references: EMBL:K02809

A.Note: The authors translated the codon TTG for residue 10 as Glu and ACC for residue 5

R.Mojsov, S.; Reinrich, G.; Wilson, T.R.; Pava-Zola, M.; Orri, L.; Habener, J.F.

J. Biol. Chem. 261, 11880-11889, 1986

A.Title: Preproglucagon gene expression in pancreas and intestine diversifies at the lev

A.Reference number: A25190; M01D:86304354; PMID:3528148

A.Accession: A25190

A>Status: not compared with conceptual translation

A.Molecule type: mRNA

A.Residues: 1-180 <MOJ>

R.Reinrich, G.; Gros, P.; Lund, P.K.; Bentley, R.C.; Habener, J.F.

Endocrinology 115, 2176-2181, 1984

A.Title: Preproglucagon messenger ribonucleic acid: nucleotide and encoded amino acid s

A.Reference number: A44198; M01D:85051023; PMID:6548696

A.Accession: A44198

A>Status: preliminary

A.Molecule type: mRNA

A.Residues: 1-180 <HE2>

A.Cross-references: GR:K02809; GR:K02810; GR:K02811; GR:K02812

A.Introns: 31/2; 85/2; 131/2; 179/2

C.Superfamily: glucagon

C.Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancre

F:1-20/Domain: signal sequence #status predicted <SIG>

F:21-180/Product: proglucagon #status predicted <PRO>

F:21-50/Region: glycinin-related peptide #status predicted

F:53-81/Product: glucagon #status predicted <CON>

F:98-127/Product: glucagon like peptide 1 #status predicted <GL1>

F:146-178/Product: glucagon like peptide 2 #status predicted <GL2>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from followi

Query Match 99.3%; Score 144; DB 1; Length 180;

Best Local Similarity 100.0%; Pred. No. 13e-13;

Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEFTSDVSSYLEGQAAKEFIAIWK 28

DB 98 HAEFTSDVSSYLEGQAAKEFIAIWK 125

RESULT 6

GCBT

glucagon precursor - golden hamster

N.Contains: glycinin-related peptide; glucagon-like peptide 1; glucagon-like peptide 2

C.Date: 13-Jun-1983 #sequence_revision 13-Jun-1983 #exl_change 20-Mar-1998

C.Accession: A01539

R.Hell, G.L.; Santerre, R.F.; Mullenbach, G.T.

Nature 302, 716-718, 1983

A.Title: Hamster preproglucagon contains the sequence of glucagon and two related pe

A.Reference number: A01539; M01D:83167563; PMID:635407

A.Accession: A01539

A.Molecule type: mRNA

A.Residues: 1-180 <HE1>

A.Cross-references: EMBL:J00059

C.Superfamily: glucagon

C.Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pa

F:1-20/Domain: signal sequence #status predicted <SIG>

F:21-180/Product: proglucagon #status predicted <PRO>

F:21-50/Region: glycinin-related peptide #status predicted

F:53-81/Product: glucagon #status predicted <CON>

F:98-127/Product: glucagon like peptide 1 #status predicted <GL1>

F:146-178/Product: glucagon like peptide 2 #status predicted <GL2>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from followi

Query Match 99.3%; Score 144; DB 1; Length 180;

Best Local Similarity 100.0%; Pred. No. 13e-13;

Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEFTSDVSSYLEGQAAKEFIAIWK 28

DB 98 HAEFTSDVSSYLEGQAAKEFIAIWK 125

RESULT 7

GCBT

glucagon precursor - bovine

N.Contains: glycinin-related peptide; glucagon-like peptide 1; glucagon-like peptide 2

C.Date: 14-Nov-1983 #sequence_revision 14-Nov-1983 #exl_change 20-Mar-1998

C.Accession: A93970; A92081; A01538

R.Lopez, C.C.; Fraclier, M.L.; Su, G.J.; Kumar, A.; Saunders, G.F.

Proc. Natl. Acad. Sci. U.S.A. 80, 5485-5489, 1983

A.Title: Mammalian pancreatic preproglucagon contains three glucagon-related peptide

A.Reference number: A93970; M01D:83299966; PMID:6677439

A.Accession: A93970

A.Molecule type: mRNA

A.Residues: 1-180 <LOP>

A.Cross-references: EMBL:K00107

R.Bromer, W.W.; Houcher, M.E.; Kofenberger Jr., J.E.

J. Biol. Chem. 245, 2827-2837, 1971

A.Title: Amino acid sequence of bovine glucagon.

A.Reference number: A92081; M01D:7116445; PMID:5102927

A.Accession: A92081

A.Molecule type: protein

A.Residues: 53-81 <BRO>

C.Superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; fatnrd
 F:1-20/Domain: signal sequence #status predicted <SIG>
 F:21-180/Product: proglucagon #status predicted <PGC>
 F:21-50/Region: qlucagon in related peptide #status predicted
 F:53-81/Product: qlucagon #status experimental <GCN>
 F:98-127/Product: qlucagon like peptide 1 #status experimental <GL1>
 F:146-178/Product: qlucagon like peptide 2 #status predicted <GL2>
 F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

Query Match 99.3% Score 144; DB 1; Length 180;
 Best local Similarity 100.0%; Pred. No. 1.3e-13;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28
 |||||
 Db 98 HAEGFTSDVSSYLEGQAAKEFIAMLVK 125

RESULT 8

A57294
 glucagon precursor - mouse
 C:Species: Mus musculus (house mouse)
 C>Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 16-Jul-1999
 C:Accession: A57294; S49903
 R:Kotchenberg, M.E.; Kitterson, C.D.; Klein, K.; Zhou, Y.; Lindberg, I.; McDonald, J.K.;
 J. Biol. Chem. 270, 10136-10146, 1995
 A:Title: Processing of mouse proglucagon by recombinant prohormone convertase 1 and immu
 A:Reference number: A57294; MUID:95247722; PMID:7730317
 A:Accession: A57294
 A:Status: Preliminary
 A:Molecule type: mRNA
 A:Residues: 1-180 <R0T>
 A:Cross-references: EMBL:Z46845; NID:9599880; PIDD:CAAM6902.1; PID:9599881
 C:Superfamily: glucagon
 C:Keywords: carbohydrate metabolism; duplication; hormone; pancreas

Query Match 99.3% Score 144; DB 2; Length 180;
 Best local Similarity 100.0%; Pred. No. 1.3e-13;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28
 |||||
 Db 98 HAEGFTSDVSSYLEGQAAKEFIAMLVK 125

RESULT 9

GCCH
 glucagon precursor - chicken
 N:Contans: glucagon; glucagon-like peptide 1
 C:Species: Gallus gallus (chicken)
 C>Date: 31-Dec-1991 #sequence_revision 31-Mar-1993 #text_change 18-Jun-1999
 C:Accession: S09992; A92189; A60836; A01542
 R:Illsøgaard, S.; Terazono, K.; Naito, K.; Takada, T.; Yamamoto, H.; Okamoto, H.
 FEBS Lett. 264, 117-120, 1990
 A:Title: Nucleotide sequence determination of chicken glucagon precursor cDNA. Chicken H
 A:Reference number: S09992; MUID:90249492; PMID:2338135
 A:Accession: S09992
 A:Molecule type: mRNA
 A:Residues: 1-151 <HNS>
 A:Cross-references: EMBL:Y07539; NID:963749; PIDD:CAA68827.1; PID:9637550
 R:Pollock, H.G.; Kimmet, J.R.
 J. Biol. Chem. 250, 9377-9380, 1975
 A:Title: Chicken glucagon. Isolation and amino acid sequence studies.
 A:Reference number: A92189; MUID:76069271; PMID:1194290
 A:Accession: A92189
 A:Molecule type: protein
 A:Residues: 55-83 <YOL>

R:Huaduy, J.; Pang, J.; Yalow, R.S.
 Horm. Metab. Res. 19, 542-544, 1987
 A:Title: Chicken glucagon: sequence and potency in receptor assay.
 A:Reference number: A60836; MUID:88113418; PMID:2828209
 A:Accession: A60836
 A:Molecule type: protein

A:Residues: 55-83 <HNS>
 C:Superfamily: glucagon
 C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pan
 F:1-20/Domain: signal sequence #status predicted <SIG>
 F:21-180/Product: proglucagon #status predicted <PGC>
 F:21-50/Region: qlucagon in related peptide #status predicted
 F:53-81/Product: qlucagon #status experimental <GCN>
 F:98-127/Product: qlucagon like peptide 1 #status experimental <GL1>
 F:146-178/Product: qlucagon like peptide 2 #status predicted <GL2>
 F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following

Query Match 91.0% Score 132; DB 1; Length 151;
 Best local Similarity 88.9%; Pred. No. 6.1e-12;
 Matches 24; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAMLV 27
 |||||
 Db 118 HAEGFTSDVSSYLEGQAAKEFIAMLV 144

RESULT 10

151301
 proglucagon - chicken
 C:Species: Gallus gallus (chicken)
 C>Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
 C:Accession: 151301
 R:Irwin, D.M.; Wong, J.
 Mol. Endocrinol. 9, 267-277, 1995
 A:Title: Trout and chicken proglucagon: alternative splicing generates mRNA transcripts
 A:Reference number: A58895; MUID:95295739; PMID:7764976
 A:Accession: 151301
 A:Status: Preliminary; translated from CH/EMBL/DDBU
 A:Molecule type: mRNA
 A:Residues: 1-206 <IRW>
 A:Cross-references: DB:578477, NID:999396; PIDD:AAE34506.1; PID:9999387
 C:Superfamily: glucagon
 C:Keywords: duplication

Query Match 91.0% Score 132; DB 2; Length 206;
 Best local Similarity 88.9%; Pred. No. 8.5e-12;
 Matches 24; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAMLV 27
 |||||
 Db 118 HAEGFTSDVSSYLEGQAAKEFIAMLV 144

RESULT 11

B61125
 glucagon-like peptide - American eel
 C:Species: Anguilla rostrata (American eel)
 C>Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 21-Nov-1997
 C:Accession: B61125
 R:Condon, J.M.; Andrews, P.C.; Thim, L.; Moon, T.W.
 Gen. Comp. Endocrinol. 82, 23-32, 1991
 A:Title: The primary structure of glucagon-like peptide but not insulin has been con
 A:Reference number: A61125; MUID:91340068; PMID:1874385
 A:Accession: B61125
 A:Molecule type: protein
 A:Residues: 1-30 <CON>
 C:Superfamily: glucagon
 C:Keywords: amidated carboxyl end; duplication
 F:1-30/Product: glucagon-like peptide #status experimental <GLP>
 F:30/Modified site: amidated carboxyl end (Arg) #status predicted

Query Match 81.4% Score 118; DB 2; Length 30;
 Best local Similarity 80.8%; Pred. No. 1.2e-10;
 Matches 21; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAMLV 26
 |||||
 Db 1 HAEGFTSDVSSYLEGQAAKEFIAMLV 26

RESULT 12

C61125
glucagon-like peptide European eel
C:Species: *Anguilla anguilla* (European eel)
C>Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 21-Nov-1997
C:Accession: C61125
R:Condon, J. M.; Andrews, P. C.; Thim, L.; Madsen, T. W.
Gen. Comp. Endocrinol. 82, 23-32, 1991
A:Title: The primary structure of glucagon-like peptide but not insulin has been conserved
A:Performer number: A61125; PMID: 9140068; PMID: 1874385
A:Accession: C61125
A:Molecule type: protein
A:Residues: 1-30 <CON>
C:Superfamily: glucagon
C:Keywords: amidated carboxyl end, duplication
F:1-30/Product: glucagon-like peptide #status experimental <GLP>
F:30/Modified site: amidated carboxyl end (Arg) #status experimental

Query Match 81.4%; Score 118; DH 2; Length 30;
Best local Similarity 80.8%; Pred. No. 1.2e-10;
Matches 21; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAML 26
DB 1 HAEGFTSDVSSYLEGQAAKEFIAML 26

RESULT 13
GPRG8
glucagon precursor - bullfrog (fragments)
N:Alternate names: oxyntomodulin
N:Conditus: glucagon, glucagon 36 (oxyntomodulin); glucagon-like peptide 1, glucagon-like
C:Species: *Rana catesbeiana* (bullfrog)
C>Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 20-Mar-1998
C:Accession: B28091; E28091; E28091
P:Pollock, H. G.; Hamilton, T. W.; Rouse, J. B.; Ehnert, K. F.; Kawlitch, A. B.
J. Biol. Chem. 268, 9746-9751, 1988
A:Title: Isolation of peptide hormones from the pancreas of the bullfrog (*Rana catesbeiana*)
A:Reference number: A92730; M010-88257-02; PMID: 630276
A:Accession: B28091
A:Molecule type: protein
A:Residues: 1-36 <CON>
A:Accession: C28091
A:Molecule type: protein
A:Residues: 37-68 <CON>
A:Accession: D28091
A:Molecule type: protein
A:Residues: 69-101 <PO3>
C:Superfamily: glucagon
C:Keywords: carbohydrate metabolism, duplication; hormone; pancreas
F:1-36/Product: glucagon-36 (oxyntomodulin) #status experimental <G36>
F:1-29/Product: glucagon #status predicted <G36>
F:37-67/Product: glucagon-like peptide-1 #status experimental <GLP>
F:69-101/Product: glucagon-like peptide-2 #status experimental <GLP>

Query Match 81.4%; Score 118; DH 1; Length 101;
Best local Similarity 75.0%; Pred. No. 4.5e-10;
Matches 21; Conservative 5; Mismatches 2; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAML 28
DB 37 HAEGFTSDVSSYLEGQAAKEFIAML 64

RESULT 14
GCIIDC
glucagon precursor - channel catfish (fragments)
C:Species: *Ictalurus punctatus* (channel catfish)
C>Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 20-Mar-1998
C:Accession: A05166; A05167
R:Andrews, P. C.; Ponner, P.
J. Biol. Chem. 260, 3910-3914, 1985
A:Title: Isolation and structures of glucagon and glucagon-like peptide from catfish pan-

A:Accession: A05166
A:Molecule type: protein
A:Residues: 1-29 <AM12>
A:Accession: A05167
A:Molecule type: protein
A:Residues: 30-63 <AM12>
C:Superfamily: glucagon
C:Keywords: carbohydrate metabolism, duplication; hormone; pancreas
F:1-29/Product: glucagon #status experimental <G36>
F:30-63/Product: glucagon-like peptide 1 #status experimental <GLP>

Query Match 77.2%; Score 112; DH 1; Length 63;
Best local Similarity 76.9%; Pred. No. 2.1e-09;
Matches 20; Conservative 4; Mismatches 2; Indels 0; Gaps 0;

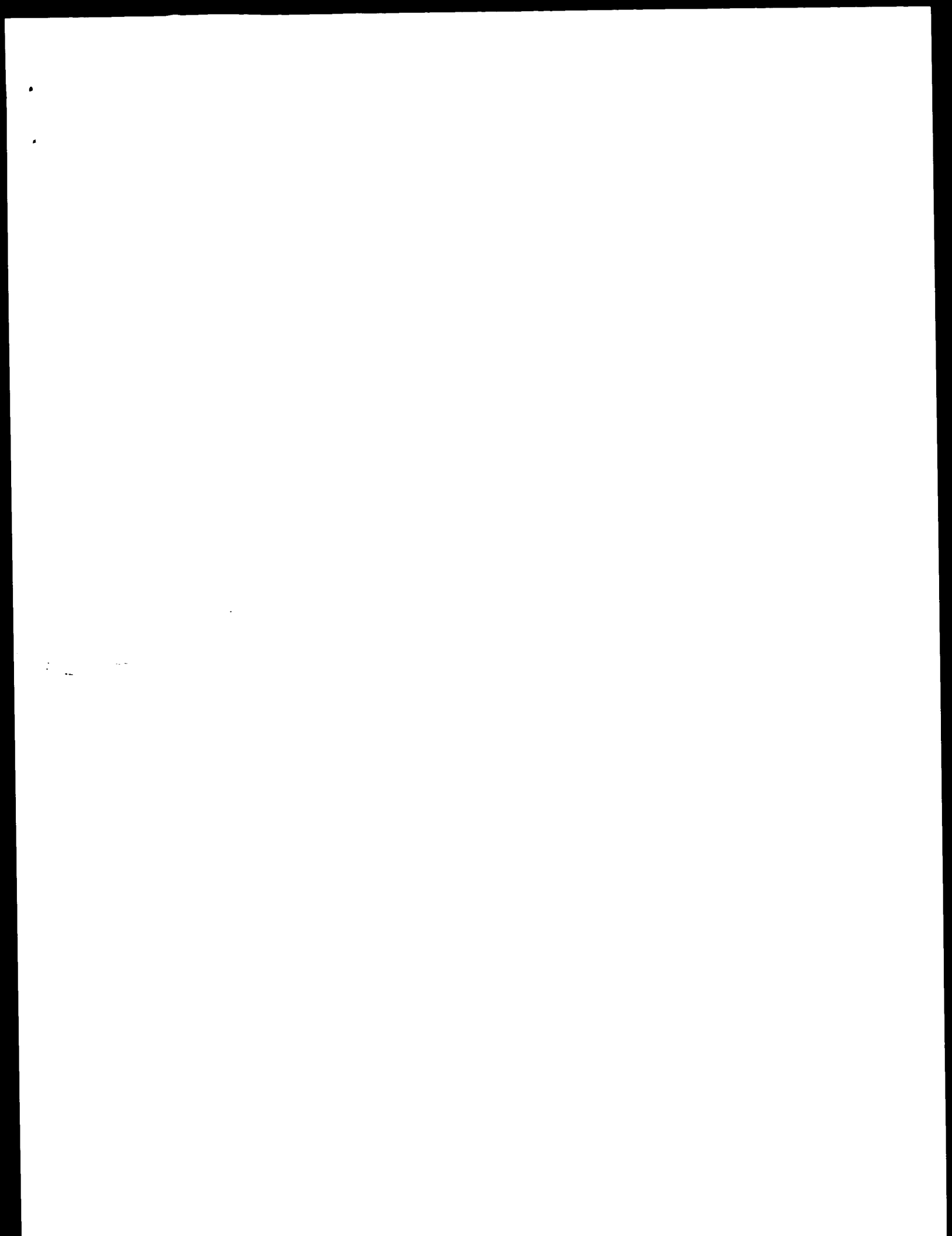
QY 1 HAEGFTSDVSSYLEGQAAKEFIAML 26
DB 30 HAEGFTSDVSSYLEGQAAKEFIAML 55

RESULT 15
GAPF2
glucagon 2 precursor - American goosetish
N:Conditus: glucagon, glucagon like peptide 1
C:Species: *Lophius americanus* (American goosetish)
C>Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 21-Jul-2000
C:Accession: A05150
P:Rund, P. K.; Goodman, R. H.; Montgomery, M. P.; Dee, P. C.; Habener, J. F.
J. Biol. Chem. 268, 3280-3284, 1993
A:Title: Anguilliform fish (eel) preproglucagon 1: Nucleotide and corresponding amino acid
A:Reference number: A05150; M010-88145-04; PMID: 6348015
A:Accession: A05150
A:Molecule type: mRNA
A:Residues: 1-132 <LDN>
A:Cross-references: 58:100943; NID:954021; E1N:04A43935.1; F10:954022
C:Superfamily: glucagon
C:Keywords: carbohydrate metabolism, duplication; hormone; pancreas
F:1-132/Product: signal sequence #status predicted <SIG>
F:122-132/Product: proglucagon 2 #status predicted <PG22>
F:52-80/Product: glucagon #status predicted <G36>
F:81-119/Product: glucagon-like peptide 1 #status predicted <GLP>

Query Match 77.2%; Score 112; DH 1; Length 122;
Best local Similarity 73.1%; Pred. No. 4.2e-09;
Matches 19; Conservative 6; Mismatches 1; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAML 26
DB 89 HAEGFTSDVSSYLEGQAAKEFIAML 114

Search completed: May 13, 2003, 09:48:33
Job time: 26.0508 secs



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OM protein - protein search, using sw model

Run on: May 13, 2003, 08:50:12 ; Search time 14.7458 Seconds
(without alignments)
81.570 Million cell updates/sec

Title: US-09-868-974-2
Perfect score: 145
Sequence: 1 HAEGETSDVSSYLEE3QAKEFIAMLVKX 29

Scoring table: BLASTUM62
Gapop 10.0, Gapext 0.5

Searched: 112892 seqs, 41476328 residues
Total number of hits satisfying chosen parameters: 112892

Minimum DB seq length: 0
Maximum DB seq length: 2000000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database: SwissProt_40.*

Pred No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match Length	DB ID	Description
1	144	99.3	158	1 GLOC_PIG
2	144	99.3	160	1 GLOC_BOVIN
3	144	99.3	180	1 GLOC_CAVPO
4	144	99.3	180	1 GLOC_HUMAN
5	144	99.3	180	1 GLOC_MESAU
6	144	99.3	180	1 GLOC_MOUSE
7	144	99.3	180	1 GLOC_OCTPE
8	144	99.3	180	1 GLOC_PAT
9	132	91.0	151	1 GLOC_CHICK
10	118	81.4	30	1 GLOC_ANTAN
11	118	81.4	103	1 GLOC_RANCA
12	112	77.2	122	1 GLOC_LOFAM
13	111	76.6	71	1 GLOC_ICPNU
14	110	75.9	78	1 GLOC_LESP
15	109	75.2	71	1 GLOC_PNAME
16	105	72.4	121	1 GLOC_CAVAT
17	104	71.7	33	1 GLOC_ORN1
18	102.5	70.7	33	1 GLOC_ORN1
19	97	66.9	29	1 GLOC_YORMA
20	97	66.9	29	1 GLOC_YORMA
21	95	65.5	29	1 GLOC_YORMA
22	93	64.1	29	1 GLOC_YORMA
23	93	64.1	124	1 GLOC_LOFAM
24	90	62.1	29	1 GLOC_DIDMA
25	90	62.1	29	1 GLOC_DIDMA
26	90	62.1	29	1 GLOC_PABIT
27	90	62.1	29	1 GLOC_PABIT
28	88	60.7	29	1 GLOC_PABIT
29	88	60.7	29	1 GLOC_PABIT
30	87	60.0	29	1 GLOC_PABIT
31	86	59.3	29	1 GLOC_PABIT
32	83	57.2	75	1 GLOC_PABIT
33	83	57.2	87	1 EXDA_HELISU

ALIGNMENTS

RESULT ID	GLUC_PIG	STANDARD:	PRT:	158 AA.
AC	101274			
DT	21-JUL-1986 (Rel. 01, Created)			
DT	01-NOV-1990 (Rel. 16, Last sequence update)			
ET	16-OCT-2001 (Rel. 40, Last annotation update)			
DE	glucagon precursor [ontains: gliocent in-related polypeptide			
DE	(GPP): glucagon; glucagon-like peptide 1 (GLP1); glucagon-like			
DE	peptide 2 (GLP2) (Fragment).			
CN	CCG.			
OS	Sus scrofa (Pig).			
OC	Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Cetartiodactyla; Suidae; Sus.			
OC	NCBI_TaxID:5823;			
RN	11			
RP	SEQUENCE OF 1-69.			
RX	MEDLINE=81248172; PubMed=6894800;			
FA	Thim L., Moody A.O.;			
RT	"The primary structure of porcine gliocent (proglucagon)."			
PL	Regul. Pept. 2:119-150(1981).			
RN	12			
RP	SEQUENCE OF 1-69.			
RX	MEDLINE=81248172; PubMed=7045833;			
PA	Thim L., Moody A.O.;			
PT	"The amino acid sequence of porcine gliocentin."			
PL	Peptides 2 Suppl. 2:37-39(1981)			
RN	13			
RP	SEQUENCE OF 33-61.			
PA	Brewer W.W., Stein L.C., Behrens G.K.;			
RT	"The amino acid sequence of glucagon: V. Location of amide groups,			
RT	and degradation studies and summary of sequential evidence."			
PL	J. Am. Chem. Soc. 70:2807-2810(1957).			
RN	14			
RP	SEQUENCE OF 76-107.			
RX	MEDLINE=89327218; PubMed=2753890;			
PA	Orskov C., Bersani M., Johansen A.H., Hoelrup P., Holst J.T.;			
RT	"Complete sequences of glucagon-like peptide-1 from human and pig			
RT	small intestine."			
PL	J. Biol. Chem. 264:12826-12829(1989).			
RN	15			
RP	SEQUENCE OF 111-158.			
RX	MEDLINE=8943712; PubMed=3379036;			
PA	Ehrl T., Thim L., Kofod H., Orskov C., Harting H., Holst J.T.;			
RT	"Naturally occurring fragments of glucagon in the porcine			
RT	and human small intestine."			
PL	J. Biol. Chem. 263:8521-8524(1988).			
RN	16			
RP	X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS).			
RX	MEDLINE=7601297; PubMed=171580;			
PA	Sasaki K., Kato T., S. Adamiak T.A., Topley T.T., Randal T.L.;			
RT	"X-ray analysis of glucagon and its relationship to receptor			
RT	binding."			
PL	Nature 257:751-752(1975).			
RN	17			
RP	FUNCTION: GLUCAGON PROMOTES HYPOGLYCEMIA AND LIPIDS, AND			
OC	PAUSES THE RUDDER STRAP LEVEL.			

34	81	55.9	39	1	EXE3_HELIO	P20394 heloderma h
35	79	54.5	36	1	GLUC_HYDRO	P09682 hydrotaeus
36	59	40.7	42	1	GIP_BOVIN	P09680 bos taurus
37	59	40.7	42	1	GIP_PIG	P01281 sus scrofa
38	59	40.7	72	1	VIP_BOVIN	P81401 bos taurus
39	59	40.7	72	1	VIP_PIG	P01284 sus scrofa
40	59	40.7	72	1	VIP_PABIT	P32649 tryptolagus
41	59	40.7	144	1	GIP_MOUSE	P48756 mus muscu
42	59	40.7	144	1	GIP_RAT	O06145 rattus norv
43	58	40.0	153	1	GIP_HUMAN	P09681 homo sapien
44	58	40.0	170	1	VIP_HUMAN	P01282 homo sapien
45	58	40.0	170	1	VIP_MOUSE	P32648 mus muscu

CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOUS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION
 CC -1- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLOGY WITH
 CC HUMAN SEQUENCE.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC PIR: A01540; GCPG.
 CC PDB: 1GCM; 30-SEP-83.
 CC InterPro: IPR000532; Glucagon.
 CC Pfam: PF00123; hormone2; 3
 CC SMART: SM00070; GlucA; 3.
 CC PROSITE: PS00260; Glucagon; 3.
 CC Glucagon family; Hormone; Cleavage on pair of basic residues;
 CC 3D-structure.
 CC KW NON-TER 1 1
 CC FT PEPTIDE 1 69 GLICENTIN-RELATED POLYPEPTIDE.
 CC FT PEPTIDE 1 30 GLUCAGON.
 CC FT PEPTIDE 33 61 GLUCAGON-LIKE PEPTIDE 1.
 CC FT PEPTIDE 78 107 GLUCAGON-LIKE PEPTIDE 2.
 CC FT PEPTIDE 126 158
 CC FT HELIX 39 42
 CC FT TURN 43 45
 CC FT TURN 46 55
 CC FT TURN 56 57
 CC SQ SEQUENCE 158 AA; 18212 MW; 2866TCE257F33B2 CRC64;
 Query Match 99.3%; Score 144; DB 1; Length 158;
 Host Local Similarity 100.0%; Pred. No. 60-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 HAEGFTSDVSSYLEGNAKEFTIAVLK 28
 Db 78 HAEGFTSDVSSYLEGNAKEFTIAVLK 105
 RESULT 2
 GLUC BOVIN STANDARD; PRT; 180 AA.
 ID GLUC_BOVIN
 AC P01272;
 DT 21-JUL-1986 (Rel. 0), Created)
 DT 13-AUG-1987 (Rel. 05, last sequence update)
 DT 15-JUN-2002 (Rel. 41, last annotation update)
 DE Glucagon precursor [Contains: Glucocorticoid-related polypeptide (GRP)];
 DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
 DE (GLP2)].
 GN GCG.
 OS Bos taurus (Bovine).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Mammalia;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 OC Bovidae; Bovinae; Bos.
 OC NCBI_TaxID=9913;
 RN 11
 RP SOURCE FROM N.A.
 RA MDLIN-8329996; PubMed-6577439;
 RA Lopez L.C., Frazier M.C., Su C.-J., Kumar A., Saunders G.F.;
 RA "Mammalian pancreatic preproglucagon contains three glucagon-related
 RA peptides.";
 RT Proc. Natl. Acad. Sci. U.S.A. 80:5485-5489(1983).
 RL 12
 RP SOURCE OF 53-81.
 RX MEDLINE-7116445; PubMed-5102927;
 RX Brower W.W., Boucher M.E., Kottenger J.E., Jr.;
 RX "Amino acid sequence of bovine glucagon."
 RL J. Biol. Chem. 246:2822-2827(1971).
 RN 13
 RP STRUCTURE BY NMR OF 53-81.
 RX MEDLINE-7116445; PubMed-6631957;
 RX Braun W., Wilder G., Lee K.H., Wuthrich K.;
 RX "Conformation of glucagon in a lipid-water interface by NMR
 RX magnetic resonance."
 RL J. Mol. Biol. 169:921-948(1983).

CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.
 CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOUS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
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 CC PIR: K00107; AAA30538.1; -
 CC PDB: A01538; GCHO.
 CC PDB: 1KX6; 13-FEB-02.
 CC InterPro: IPR000532; Glucagon.
 CC Pfam: PF00123; hormone2; 3.
 CC PRINTS: PR00275; GLUCAGON
 CC SMART: SM00070; GlucA; 3.
 CC PROSITE: PS00260; Glucagon; 4.
 CC Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
 CC 3D-structure.
 CC KW SIGNAL 1 20
 CC FT PEPTIDE 21 50 GLICENTIN-RELATED POLYPEPTIDE.
 CC FT PEPTIDE 53 81 GLUCAGON.
 CC FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
 CC FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 CC SQ SEQUENCE 180 AA; 20944 MW; 8D9B4FF05B9F15FF CRC64;
 Query Match 99.3%; Score 144; DB 1; Length 180;
 Host Local Similarity 100.0%; Pred. No. 6,9c-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 HAEGFTSDVSSYLEGNAKEFTIAVLK 28
 Db 98 HAEGFTSDVSSYLEGNAKEFTIAVLK 125
 RESULT 3
 GLUC CAVPO STANDARD; PRT; 180 AA.
 ID GLUC_CAVPO
 AC P05110;
 DT 13-AUG-1987 (Rel. 05, Created)
 DT 13-AUG-1987 (Rel. 05, last sequence update)
 DT 16-OCT-2001 (Rel. 40, last annotation update)
 DE Glucagon precursor [Contains: Glucocorticoid-related polypeptide (GRP)];
 DE Glucagon; Glucagon-37 (Oxynomodulin); Glucagon-like peptide 1 (GLP1);
 DE Glucagon-like peptide 2 (GLP2)].
 GN GCG.
 OS Cavia porcellus (Guinea pig).
 OC Eukaryota; Metazoa; Chordata; Granata; Vertebrata; Mammalia;
 OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
 OC NCBI_TaxID=10141;
 RN 11
 RP SOURCE FROM N.A.
 RA MDLIN-8624818; PubMed-3755107;
 RA Setno S., Welsh M., Bell G.L., Chan S.J., Steiner D.F.;
 RA "Mutations in the guinea pig preproglucagon gene are restricted to a
 RA specific portion of the prohormone sequence."
 RT FEBS Lett. 203:25-30(1986).
 RL 12
 RP SOURCE OF 53-81.
 RX MEDLINE-86165412; PubMed-3956884;
 RX Huang C.G., Eng J., Pan Y.-C.F., Holmes J.D., Yalow R.S.;
 RX "Guinea pig glucagon differs from other mammalian glucagons."
 RL Diabetes 35:508-512(1986).
 RN 13
 RP PARTIAL SOURCE OF 53-89.

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RX MEDLINE=86017849; PubMed=4048553;
RA Conlon J.M., Hansen H.F., Schwartz J.W.;
RT "Primary structure of glucagon and a partial sequence of
RL oxyntomodulin (glucagon-37) from the guinea pig.";
RL Reggi Pept 11:304-320(1985).
CC -1- FUNCTION: GLUCAGON PROMOTES HYPOGLYCEMIA OF GLYCOGEN AND LIPIDS, AND
CC RAISES THE BLOOD SUGAR LEVEL.
CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILUS
CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
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CC
DR EMBL: D00014; BAA00010.1;
DR PIR: A24856; GCGP.
DR HSSP: P01274; IGCN.
DR InterPro: IPI000532; Glucagon
DR Pfam: PF00123; hormone2; 3.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA; 3.
DR PROSITE: PS00260; GLUCAGON; 4.
KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
FT SIGNAL 1 20
FT PEPTIDE 21 50 GLUCENTIN-RELATED POLYPEPTIDE.
FT PEPTIDE 53 81 GLUCAGON.
FT PEPTIDE 89 89 GLUCAGON-37.
FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
FT PEPTIDE 180 AA; 20972 MW; 7025FBI81;61D2776 CRC64.
SO SEQUENCE

Query Match 99.3%; Score 144; DB 1; Length 180;
Best Local Similarity 100.0%; Pred. No. 6,9e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0,

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RT "Structure of the human glucagon gene.";
RL Nucleic Acids Res. 14:4719-4730(1986).
EN (3)
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=83271477; PubMed=6877358;
RA Bell G.I., Sanchez-Pescador R., Jaybourn P.J., Najarian R.C.;
RT "Nucleon duplication and divergence in the human preproglucagon gene.";
RL Nature 304:368-371(1983).
EN (4)
RP SEQUENCE FROM N.A.
RC TISSUE=pancreas;
RA Strassberg R.;
RL Submitted (MAR-2001) to the EMBL/Genbank/DBJ databases.
EN (5)
RP SEQUENCE OF 53-81.
RA Thompson T., Kristiansen K., Brunfelde K., Sundby F.;
RT "The amino acid sequence of human glucagon.";
RL FEBS Lett. 21:315-319(1972).
EN (6)
RP SEQUENCE OF 98-127.
RX MEDLINE=89327238; PubMed=2753890;
RA Orskov C., Berstad M., Johnsen A.H., Hoefrup F., Holst J.J.;
RT "Complete sequences of glucagon-like peptide 1 from human and pig
small intestine.";
RL J. Biol. Chem. 264:12826-12829(1989).
EN (7)
RP X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS) OF 53-81.
RX MEDLINE=98334683; PubMed=9667960;
RA Sturm N.S., Lin Y., Hurley S.K., Kristiansky J.L., Ahn J.M.,
AZORCH B.V., Trivedi D., Hudry V.J.;
RT "Structure-function studies on positions 17, 18, and 21 replacement
analogues of glucagon: the importance of charged residues and salt
bridges in glucagon biological activity.";
RL J. Med. Chem. 41:2693-2700(1998).
CC -1- FUNCTION: GLUCAGON PROMOTES HYPOGLYCEMIA OF GLYCOGEN AND LIPIDS, AND
CC RAISES THE BLOOD SUGAR LEVEL.
CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILUS
CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC -1- PHARMACOTHERAPY: Available under the names Glucagon (Eli Lilly) and
CC Glucagon or Glucagon Novo Nordisk (Novo Nordisk). Used to treat
CC severe hypoglycemia in insulin-dependent diabetics.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC -1- DATABASE: NAME-Glucagon at Eli Lilly;
CC NOTE-Clinical information on Eli Lilly glucagon products:
CC www="http://www.lillydiabetes.com/products/patientinfo.cfm".
CC
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CC
DR EMBL: J04040; AAA52567.1;
DR PIR: X03991; CAA27627.1;
DR EMBL: V01515; CAA24759.1;
DR EMBL: BC005278; AAA05278.1;
DR PIR: A24377; GCHU.
DR PIR: S23309; S23309.
DR PDB: 1BHD; 1B-NOV-98.
DR Genew: HGNC:4191; GCG.
DR MIM: 138030;
DR MIM: 231530;
DR InterPro: IPI000532; Glucagon.
DR Pfam: PF00123; hormone2; 3.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA; 3.
DR PROSITE: PS00260; GLUCAGON; 4.

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KW glucagon family: Hormone; Cleavage on pair of basic residues; Signal;
KW Pharmacological: 3D-structure.
FT SIGNAL. 1 20 GLICENTIN-RELATED POLYPEPTIDE.
FT PEPTIDE 21 50
FT PEPTIDE 53 81 GLUCAGON.
FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
FT PEPTIDE 82 82 K -> N (IN REF. 3).
FT SIGNAL 180 AA: 20909 MW: 7499766.2942862C CXC64:
SO SHOUENGE

Query Match 99.3% Score 144 DB 1: Length 180;
Best local similarity 100.0%; Pred. No. 6.9e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0, Gaps 0.

UY 1 HAECTPSIDVSSYLEGQAKKEFIAMLYK 28
DB 98 HAECTPSIDVSSYLEGQAKKEFIAMLYK 125

RESULT 5
GLUC_MESAU STANDARD: PRT: 180 AA.
ID GLUC_MESAU
AC P01273;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-FEB-1996 (Rel. 33, Last sequence update)
DT 15-OCT-2001 (Rel. 40, Last annotation update)
DE Glucagon precursor [Contains: Glucocorticoid-related polypeptide (GRP);
DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon like peptide 2
DE (GLP2)].
GN GCG.
OS Mesocricetus auratus (Golden hamster).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
OC Mesocricetus.
NC Mesocricetus.
OX NCBI_TaxID=10036;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=83167563; PubMed=6815407;
RA Heil G.L.; Sauter R.F.; Mullenbach G.T.;
RT "Hamster proglucagon contains the sequence of glucagon and two
RT related peptides."
KL Nature 302:716-718(1983).
RN [2]
RP REVISIONS TO 12-15.
RA Heil G.L.;
RT Submitted (XXX-1985) to the EMBL/GenBank/DBJ databases.
CC 1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
CC RAISES THE BLOOD SUGAR LEVEL.
CC 1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOS
CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC 1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC 1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC
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CC
CC EMBL: J00059; AAA37074.1;
CC PIR: A01539; GCHV.
CC ISSP: P01274; IGCN.
CC InterPro: IPR000532; Glucagon.
CC Pfam: PF00123; hormone-2; 3.
CC PRINTS: PR00275; GLUCAGON.
CC SMART: SM00070; GLUCA; 3.
CC PROSITE: PS00260; GLUCAGON; 4.
KW Glucagon family: Hormone; Cleavage on pair of basic residues; Signal.
FT SIGNAL 1 20

```

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FT PEPTIDE 21 50 GLICENTIN-RELATED POLYPEPTIDE.
FT PEPTIDE 53 81 GLUCAGON.
FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
FT PEPTIDE 82 82 K -> N (IN REF. 3).
FT SIGNAL 180 AA: 20954 MW: 0279184917AADI4H CXC64:
SO SHOUENGE

Query Match 99.3% Score 144 DB 1: Length 180;
Best local similarity 100.0%; Pred. No. 6.9e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0, Gaps 0.

UY 1 HAECTPSIDVSSYLEGQAKKEFIAMLYK 28
DB 98 HAECTPSIDVSSYLEGQAKKEFIAMLYK 125

RESULT 6
GLUC_MOUSE STANDARD: PRT: 180 AA.
ID GLUC_MOUSE
AC P55095;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Glucagon precursor [Contains: Glucocorticoid-related polypeptide (GRP);
DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon like peptide 2
DE (GLP2)].
GN GCG.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RX TISSUE-Pancreatic islets;
RX MEDLINE=95247722; PubMed=7730317;
RA Rothenberg M.E.; Eljertson C.D.; Klein K.; Zhou Y.; Linberg L.;
RA Mcgonald T.K.; Mackin P.B.; Noe B.D.;
RT "Processing of mouse proglucagon by recombinant prohormone convertase
RT 1 and immunopurified prohormone convertase 2 in vitro."
KL J Biol Chem 270:10136-10146(1995).
RN [2]
RP SEQUENCE FROM N.A.
RA Shamsadin P.; Knepel W.;
RT Submitted (JUN-2000) to the EMBL/GenBank/DBJ databases.
CC 1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
CC RAISES THE BLOOD SUGAR LEVEL.
CC 1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOS
CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC 1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC 1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC
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CC EMBL: Z46845; CAAB6902.1;
CC EMBL: AF276754; AAK6898.1;
CC HSSP: P01274; IGCN.
CC GSD: M0195674; GCG.
CC InterPro: IPR000532; Glucagon.
CC Pfam: PF00123; hormone-2; 3.
CC PRINTS: PR00275; GLUCAGON.
CC SMART: SM00070; GLUCA; 3.
CC PROSITE: PS00260; GLUCAGON; 4.
KW Glucagon family: Hormone; Cleavage on pair of basic residues; Signal.
FT SIGNAL 1 20
FT PEPTIDE 21 50 GLICENTIN-RELATED POLYPEPTIDE.

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DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA: 3.
 DR PROSITE: PS00260; GLUCAGON: 4.
 KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
 CC
 FT SIGNAL 1 20
 FT PEPTIDE 21 50 GLICENTIN-RELATED POLYPEPTIDE.
 FT PEPTIDE 53 81 GLUCAGON.
 FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
 FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 SO SEQUENCE 180 AA: 20846 MW, 769314090327978 CMC64;
 Query Match 99.3%; Score 144; DB 1; Length 180;
 Best Local Similarity 100.0%; Pred. No. 6, 9e 14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 YY 1 HAEGFTSDVSSYLEGGAKEFFIAMLV 28
 DB 98 HAEGFTSDVSSYLEGGAKEFFIAMLV 125
 RESULT 9
 ID GLUC_CHICK STANDARD; PRT; 151 AA.
 AC P01277;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 01-AUG-1990 (Rel. 15, Last sequence update)
 DT 15-JUL-1999 (Rel. 38, Last annotation update)
 DE Glucagon precursor.
 OS Gallus gallus (chicken), and
 OS Melagris gallinavo (Common turkey).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
 OC Gallus.
 NC NCHL_TaxID=9031, 9103;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC SPECIES-CHICKEN; TISSUE-Pancreas;
 RX MEDLINE-90249492; PubMed-2318135;
 RA Hasegawa S., Torazono K., Neta K., Takada T., Yamamoto H.,
 RA Okamoto H.;
 RT *Nucleotide sequence determination of chicken glucagon precursor
 RT cDNA. Chicken preproglucagon does not contain glucagon-like peptide
 RT IL.*
 KL FEBS Lett. 264:117-120(1990).
 RN [2]
 RP SEQUENCE OF 55-83.
 RC SPECIES-CHICKEN;
 RX MEDLINE-76069271; PubMed-1194290;
 RA Pollock H.G., Kimmel J.R.;
 RT *Chicken glucagon. Isolation and amino acid sequence studies.*;
 KL J. Biol. Chem 250:9377-9380(1975).
 RN [3]
 RP COMPOSITION, AND SEQUENCE OF 55-83.
 RC SPECIES-M. gallinavo;
 RX MEDLINE-74074118; PubMed-4645932;
 RA Markusen J., Frandsen E.K., Hedding L.G., Sundby F.;
 RT *Turkey glucagon: crystallization, amino acid composition and
 RT immunology.*;
 KL Horm. Metab. Res. 4:360-363(1972).
 CC
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 CC THE BLOOD SUGAR LEVEL.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- MISCELLANEOUS: THE COMPOSITION OF TURKEY GLUCAGON APPEARS TO BE
 CC IDENTICAL WITH CHICKEN.
 CC -1- GLUCAGON-LIKE PEPTIDE II.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC
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 CC
 DR EMBL: Y07539; CAA68827.1;
 DR PIR: S09992; GCGH.
 DR PIR: A91740; A91740.
 DR HSSP: P01274; ICGN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 2.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA: 2.
 DR PROSITE: PS00260; GLUCAGON: 3.
 KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
 CC
 FT SIGNAL 1 22
 FT CHAIN 23 151 PROGLUCAGON.
 FT PEPTIDE 55 83 GLUCAGON.
 FT PROPEP 86 118
 FT PEPTIDE 118 147
 FT MOD_RES 147 147
 SO SEQUENCE 151 AA: 17520 MW, B6C0B87536C0A8F5 CMC64;
 Query Match 91.0%; Score 132; DB 1; Length 151;
 Best Local Similarity 88.7%; Pred. No. 3, 2e 12;
 Matches 24; Conservative 3; Mismatches 0; Indels 0; Gaps 0;
 YY 1 HAEGFTSDVSSYLEGGAKEFFIAMLV 27
 DB 118 HAEGFTSDVSSYLEGGAKEFFIAMLV 144
 RESULT 10
 ID GLUC_ANGAN STANDARD; PRT; 30 AA.
 AC P41521;
 DT 01-NOV-1995 (Rel. 32, Created)
 DT 01-NOV-1995 (Rel. 32, Last sequence update)
 DT 01-NOV-1995 (Rel. 32, Last annotation update)
 DE Glucagon-like peptide (GLP).
 OS Anguilla anguilla (European freshwater eel), and
 OS Anguilla rostrata (American eel).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Anguilliformes; Anguillidae;
 OC Anguilla.
 NC NCHL_TaxID=7936, 7938;
 RN [1]
 RP SEQUENCE.
 RC TISSUE-Pancreas;
 RX MEDLINE-91340068; PubMed-1874385;
 RA Conlon J.M., Andrews P.C., Thim L., Moon T.W.;
 RT *The primary structure of glucagon-like peptide but not insulin has
 RT been conserved between the American eel, Anguilla rostrata and the
 RT European eel, Anguilla anguilla.*;
 CC
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC
 DR PIR: B61125; B61125.
 DR PIR: C61125; C61125.
 DR HSSP: P01275; 1BH0.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 1.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA: 1.
 DR PROSITE: PS00260; GLUCAGON: 1.
 KW Glucagon family; Amidation.
 FT MOD_RES 30 30
 SO SEQUENCE 30 AA: 3376 MW, 592DA5EABD6E49D0 CMC64;
 Query Match 81.4%; Score 118; DB 1; Length 30;
 Best Local Similarity 80.8%; Pred. No. 6, 8e-11;
 Matches 21; Conservative 4; Mismatches 1; Indels 0; Gaps 0;
 YY 1 HAEGFTSDVSSYLEGGAKEFFIAMLV 26

Db 1 HAEGTYSVSSYLQDQAAKEFVSWL 26

|||||:|||||:|||||:|||||

RESULT 11
GLUC_RANCA STANDARD: PRT: 103 AA.

ID GLUC_RANCA STANDARD: PRT: 103 AA.
AC P15438; P15439; P15440;
DT 01-APR-1990 (Rel. 14, Created)
DT 01-JUL-1993 (Rel. 26, Last annotation update)
DT 01-JUL-1993 (Rel. 26, Last annotation update)
DE Glucagon precursor (Fragment).
OS Rana catesbeiana (Bull frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranoidae; Ranidae; Rana.
OX NCBI_TaxID=8400;

RP SEQUENCE.
RX TISSUE=Pancreas; PubMed=3260246.
RA MEDLINE=88257103; PubMed=3260246.
RA Pollock H.C., Hamilton J.W., Fosse J.R., Elbert K.E., Haworth A.H.;
RT "Isolation of peptide hormones from the pancreas of the bullfrog
RT (Rana catesbeiana). Amino acid sequences of pancreatic polypeptide,
RT oxyntomodulin, and two glucagon-like peptides.";
RT J. Biol. Chem. 263:9746-9751(1988)
CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC THE BLOOD SUGAR LEVEL.
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC -1- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLOGY WITH
CC OTHER SPECIES SEQUENCES.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY
DR PIR: B2091; CCPCB.
DR HSSP: P01274; IGCN.
DR InterPro: IPR000532; Glucagon.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCAG. 3.
DR ProSITE: PS00450; GLUCAGON. 3.
KW Glucagon family; Hormone.
FT PEPTIDE 1 29 GLUCAGON.
FT PEPTIDE 1 36 GLUCAGON-36 (OXYNTOMODULIN).
FT PEPTIDE 39 70 GLUCAGON-LIKE PEPTIDE 1.
FT NON-CONS 70 71
FT PEPTIDE 71 103 GLUCAGON-LIKE PEPTIDE 2.
SQ SEQUENCE 103 AA: 11719 MW, 316287.87BAH1CBF7 CRC64,

Query Match 81.4%; Score 118; DH 1; Length 103;
Best Local Similarity 75.0%; Pred. No. 2,4e-10;
Matches 21; Conservative 5; Mismatches 2; Indels 0; Gaps 0;

QY 1 HAEGTYSVSSYLQDQAAKEFIAMV 28
ID 39 HAEGTYSVSSYLQDQAAKEFIAMV 66
|||||:|||||:|||||:|||||

RESULT 12

GLUC_IOPAM STANDARD: PRT: 122 AA.

ID GLUC_IOPAM STANDARD: PRT: 122 AA.
AC P04092;
DT 01-NOV-1986 (Rel. 03, Created)
DT 01-NOV-1986 (Rel. 03, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Glucagon II precursor [contains: Glucanin-related polypeptide (GRP)];
OS Glucagon II, Glucagon-like peptide II.
OS Lepidus americanus (American goshawk) (Anguilliformis).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoclupeidae;
OC Acanthomorpha; Paracanthopterygii; Lophiliformes; Lophidae; Lepidus.
OX NCBI_TaxID=8073;

RP SEQUENCE FROM N.A.
RX MEDLINE=83135785, PubMed=6338015,
Lund P.K., Goodman R.H., Montminy M.R., Deo P.C., Habener J.F.;

PT "Anguilliformis islet pre-proglucagon II. Nucleotide and corresponding
RT amino acid sequence of the cDNA.";
RT J. Biol. Chem. 258:3280-3284(1983).

RP PROCESSING.
RX MEDLINE=86286913; PubMed=3526301;
RA Noe B.D., Andrews P.C.;
RT "Specific glucagon-related peptides isolated from anguilliform islets
RT are metabolic cleavage products of (pre)proglucagon-II.";
RT Peptides 7:331-339(1986).

CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC THE BLOOD SUGAR LEVEL.
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.

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CC or send an email to license@isb.ch).

DP EMRL: V06342; CNA3905.1;
DR PIR: A05150; CCAP2.
DR HSSP: P01274; IGCN.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; Hormone2, 2.
DR PRINTS: PR00276; GLUCAGON.
DR SMART: SM00070; GLUCAG. 2.
DR ProSITE: PS00450; GLUCAGON. 2.
KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
FT PEPTIDE 1 21 GLUCAGON-RELATED POLYPEPTIDE.
FT PEPTIDE 22 49
FT PEPTIDE 52 80
FT PROPEP 83 86
FT PEPTIDE 89 114 GLUCAGON II.
SQ SEQUENCE 122 AA: 14171 MW, 5140CA47EF915519 CRC64;

Query Match 77.2%; Score 112; DH 1; Length 122;
Best Local Similarity 73.1%; Pred. No. 2.1e-09;
Matches 19; Conservative 6; Mismatches 1; Indels 0; Gaps 0;

QY 1 HAEGTYSVSSYLQDQAAKEFIAMV 26
ID 89 HAEGTYSVSSYLQDQAAKEFIAMV 114
|||||:|||||:|||||:|||||

RESULT 13

GLUC_IOTPU STANDARD: PRT: 71 AA.

ID GLUC_IOTPU STANDARD: PRT: 71 AA.
AC P04093;
DT 01-NOV-1986 (Rel. 03, Created)
DT 01-MAR-1988 (Rel. 10, Last sequence update)
DT 01-NOV-1990 (Rel. 16, Last annotation update)
DE Glucagon precursor (Fragment).
OS Ictalurus punctatus (Channel catfish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Siluriformes;
OC Ictaluridae; Ictalurus.
OX NCBI_TaxID=7998;

RP SEQUENCE.
RX TISSUE=Pancreas;
RA MEDLINE=87156787, PubMed=3030323;
Roushon N.M., Malendowicz A.M., Gurd R.S.;
RT "Biological activities of catfish glucagon and glucagon-like
RT peptide.";
RT Biochem. Biophys. Res. Commun. 143:87-92(1987).

RP SEQUENCE.
RX TISSUE=Pancreas;

RA MEDLINE-85157536; PubMed-3838546;
 RA Andrews P.C., Komner P.;
 RT Isolation and structures of glucagon and glucagon-like peptide from
 RT callish pancreas.*;
 RT J. Biol. Chem. 260:3910-3914(1985).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 CC THE BLOOD SUGAR LEVEL.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLOGY WITH
 CC AMERICAN GOOSEFISH SEQUENCES.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 DR PIR: A05166; CPTID.
 DR HSSP: P01274; IGCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 2.
 DR SMART: SM00070; GLUGA; 2.
 DR PROSITE: PS00260; GLUCAGON; 2.
 KM Glucagon family; Hormone.
 FT NON_TER 1 29
 FT PEPTIDE 1 29 GLUCAGON.
 FT PEPTIDE 38 71 GLUCAGON-LIKE PEPTIDE.
 FT CONFLICT 53 53 E -> D (IN REF. 2).
 FT NON_TER 71 71
 SQ SEQUENCE 71 AA: 8173 MW: 2468879AD981ABF CRC64;

Query Match 76.6%; Score 111; DB 1; Length 71;
 Best Local Similarity 76.9%; Pred. No. 1.7e-09;
 Matches 20; Conservative 4; Mismatches 2; Indels 0; Gaps 0;

OY 1 HAEGETSDVSSYLEGOAKKEFIAML 26
 DB 38 HADGTTSDVSSYLEGOAKKEFIAML 63

RESULT 14

GLUC_LEPSP

ID GLUC_LEPSP STANDARD; PRT: 78 AA.

AC P09566;

DT 01-MAR-1989 (Rel. 10, Created)

DT 01-NOV-1990 (Rel. 16, Last sequence update)

DE 16-OCT-2001 (Rel. 40, Last annotation update)

DE Glucagon precursor [contains: Glucagon; Glucagon-36 (oxyntomodulin);

DE Glucagon-like peptide] (Fragment).

OS Lepisosteus spatula (Alligator gar) (Actinopterygii: Lepisosteidae).

OC Euarystia: Melazoa: Chordata: Craniata: Vertebrata: Euteleostomi:

OC Actinopterygii: Neopterygii: Semionotiformes; Lepisosteidae;

CC Lepisosteus;

CC NCHI_TaxID=79417;

CC 111

RP SEQUENCE OF 1-36 AND 45-78.

RC TISSUE-Pancreas;

RA MEDLINE-88196798; PubMed-3282974;

RA Pollock H.G., Kimmel J.R., Ehner K.E., Hamilton J.W., Rouse J.B.,

RA Lance V., Rawlitch A.B.;

RT Isolation of alligator gar (lepisosteus spatula) glucagon,

RT oxyntomodulin, and glucagon-like peptide: amino acid sequences of

RT oxyntomodulin and glucagon-like peptide.*;

RT gen. comp. Endocrinol. 69:133-140(1988).

CC 121

RP PRELIMINARY SEQUENCE OF 1-29.

RC TISSUE-Pancreas;

RA MEDLINE-88030594; PubMed-3411873;

RA Pollock H.G., Kimmel J.R., Hamilton J.W., Rouse J.B., Ehner K.E.,

RA Lance V., Rawlitch A.B.;

RT Isolation and structures of alligator gar (lepisosteus spatula)

RT insulin and pancreatic polypeptide.*;

RT gen. comp. Endocrinol. 67:375-382(1987).

CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES

CC THE BLOOD SUGAR LEVEL.

CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS

CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.

CC -1- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLOGY WITH

CC AMERICAN GOOSEFISH SEQUENCES.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 DR PIR: S06339; GCGXA.
 DR HSSP: P01274; IGCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 2.
 DR SMART: SM00070; GLUGA; 2.
 DR PROSITE: PS00260; GLUCAGON; 2.
 KM Glucagon family; Hormone.
 FT PEPTIDE 1 29 GLUCAGON.
 FT PEPTIDE 38 71 GLUCAGON-LIKE PEPTIDE.
 FT PEPTIDE 45 78 GLUCAGON-LIKE PEPTIDE.
 FT NON_TER 71 71
 SQ SEQUENCE 78 AA: 8990 MW: 30106496271594F0 CRC64;

Query Match 75.9%; Score 110; DB 1; Length 78;
 Best Local Similarity 73.1%; Pred. No. 2.6e-09;
 Matches 19; Conservative 5; Mismatches 2; Indels 0; Gaps 0;

OY 1 HAEGETSDVSSYLEGOAKKEFIAML 26
 DB 45 HADGTTSDVSSYLEGOAKKEFIAML 70

RESULT 15

GLUC_PIAME

ID GLUC_PIAME STANDARD; PRT: 71 AA.

AC P81880;

DT 30-MAY-2000 (Rel. 39, Created)

DT 30-MAY-2000 (Rel. 39, Last sequence update)

DE 30-MAY-2000 (Rel. 39, Last annotation update)

DE Glucagon precursor (Fragment).

OS Platydictyon mesopotamicus (Pacu).

OC Euarystia: Melazoa: Chordata: Craniata: Vertebrata: Euteleostomi:

OC Actinopterygii: Neopterygii: Teleostei: Ostariophysi: Characiformes;

CC Characidae; Platydictyon.

CC NCHI_TaxID=42528;

CC 111

RP SEQUENCE:

RC TISSUE-Pancreas;

RA MEDLINE-99259587; PubMed-10327603;

RA de Lima J.A., Oliveira B., Conlon J.M.;

RT Purification and characterization of insulin and peptides derived

RT from proglucagon and prosomatostatin from the fruit-eating fish, the

RT pacu Platydictyon mesopotamicus.*;

RT Comp Biochem Physiol. 122B:127-135(1999).

CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES

CC THE BLOOD SUGAR LEVEL.

CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS

CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.

CC -1- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLOGY WITH

CC OTHER FISH SEQUENCES.

CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.

DR HSSP: P01274; IGCN.

DR InterPro: IPR000532; Glucagon.

DR Pfam: PF00123; hormone2; 2.

DR PRINTS: PR00275; GLUCAGON.

DR SMART: SM00070; GLUGA; 2.

DR PROSITE: PS00260; GLUGA; 2.

KM Glucagon family; Hormone.

FT PEPTIDE 1 29 GLUCAGON.

FT PEPTIDE 38 71 GLUCAGON-LIKE PEPTIDE.

FT NON_TER 71 71

SQ SEQUENCE 71 AA: 8146 MW: F66A3CA2DD9806C5 CRC64;

Query Match 75.2%; Score 109; DB 1; Length 71;
 Best Local Similarity 73.1%; Pred. No. 3.4e-09;
 Matches 19; Conservative 5; Mismatches 2; Indels 0; Gaps 0;

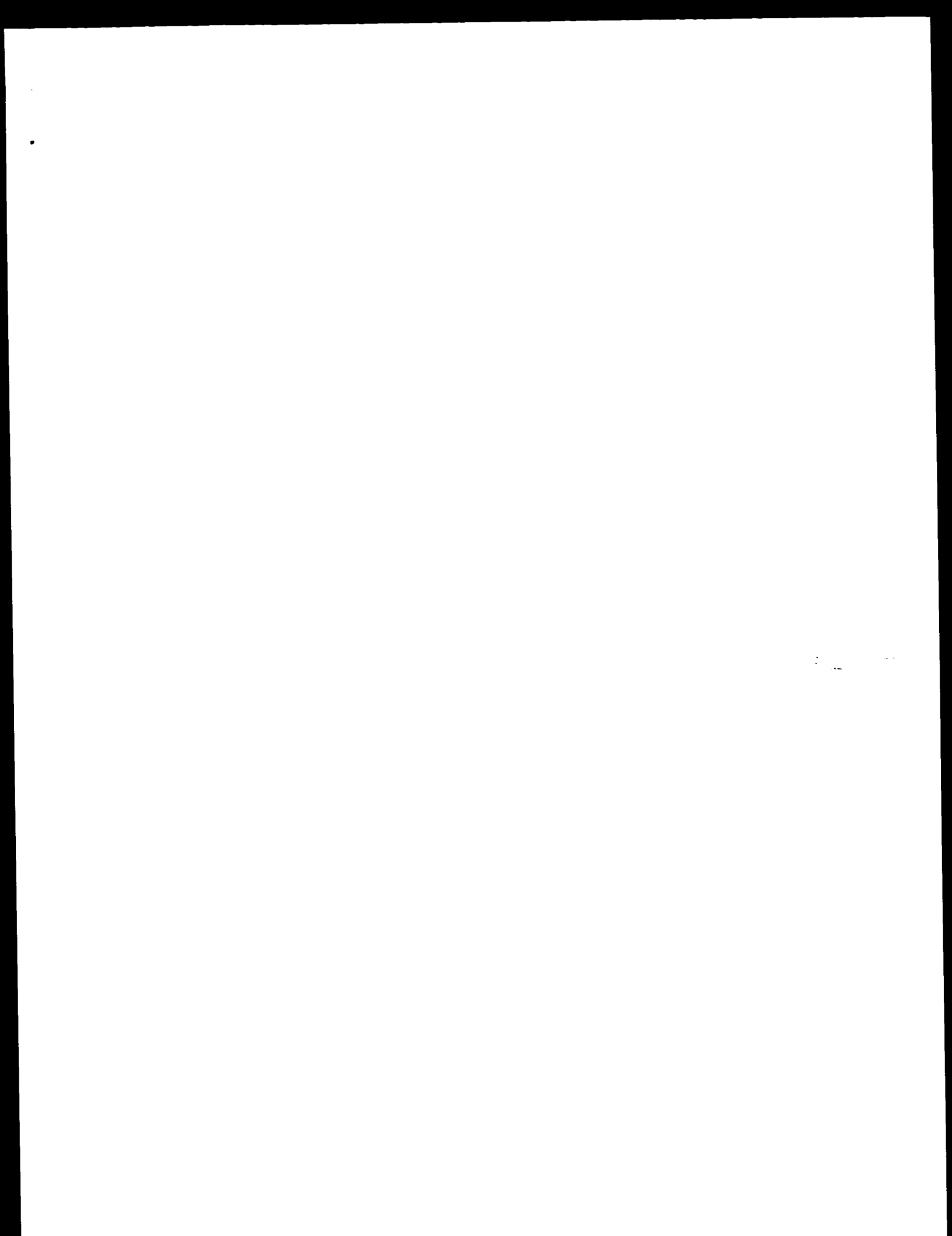
OY 1 HAEGETSDVSSYLEGOAKKEFIAML 26
 DB 38 HADGTTSDVSSYLEGOAKKEFIAML 63

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Search completed: May 13, 2003, 09:25:10
Job time : 15.7458 secs



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OM protein - protein search. using sw model

Run on: May 13, 2004, 09:07:49 ; Search time 52.1017 Seconds
(without alignments)
114.687 Million cell updates/second

Title:	IRS-09-868 974 2
Perfect score:	145

Sequence: 1 HAFGFTSTVSSYLEGQAARFIWLKX 29

Scoring table: R1QSUM62
Carbon 10 0
Carbon 0 5

Searched: 671580 seqs, 206047115 residues

Total number of hits satisfying chosen parameters:	671580
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Maximum DB seq length: 2000000000

Post-processing	Minimum Match	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Median	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mode	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stdev	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Range	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skewness	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kurtosis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Entropy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shannon	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chi-square	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fisher	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Log-likelihood	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bayesian	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Naive Bayes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Support Vector	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Decision Tree	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Random Forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Neural Network	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Deep Learning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gradient Boosting	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AdaBoost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Logit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Probit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Logit-Boost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AdaBoost-M3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AdaBoost-M4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AdaBoost-M5	0.00	0.00	0.00	0.00								

Listing first 45 summaries

Database

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1:  SPREMBL_21.*
2:  sp_archae.*
3:  sp_bacteria.*
4:  sp_fungi.*
5:  sp_human.*
6:  sp_invertebrate.*
7:  sp_mammal.*
8:  sp_mite.*
9:  sp_organism.*
10: sp_plant.*
11: sp_protist.*
12: sp_virus.*
13: sp_vertebrate.*
14: sp_unclassified.*
15: sp_virus.*
16: sp_eacteria.*
17: sp_archae.*

```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.

SUMMARY

Result No.	Score	Query Match	Length	FR	ID	Description
1	144	99.3	180	6	Q951G0	Q951G0 canis fami
2	132	91.0	206	13	Q91418	Q91418 galus galli
3	126	86.9	234	13	Q12556	Q12556 heliothorm S
4	118	81.4	920	13	Q8WU79	Q8WU79
5	114	78.6	266	13	Q42143	Q42143 xeropus lae
6	109	75.2	72	13	Q61404	Q61404 oncorhynch
7	109	75.2	178	13	Q91971	Q91971 oncorhynch
8	109	75.2	178	13	Q91189	Q91189 oncorhynch
9	109	75.2	219	13	Q42144	Q42144 xeropus lae
10	102	70.3	160	13	Q9P0R1	Q9P0R1 petromyzon
11	98	67.6	121	13	Q9DD66	Q9DD66 brachydanid
12	95	65.5	62	13	Q9PWR9	Q9PWR9 scyliorhin
13	88	60.7	96	13	Q9DG43	Q9DG43 amphiotes
14	83	57.2	120	13	Q9P0R0	Q9P0R0 petromyzon
15	59	40.7	130	11	Q9CVR1	Q9CVR1 mus muscul
16	59	40.7	144	11	Q9D8R7	Q9D8R7 mus muscul

ALIGNMENTS

17	59	40.7	389	1	093IH2	093IH2 wolinnella s
18	58	40.0	171	11	090D27	P71006 bacillus su
19	54.5	37.0	440	16	P71006	093C29 brachydanio
20	53	36.6	172	13	090H29	081Y10 methanosarc
21	52.5	36.2	427	17	081Y10	098S4 oncorhynchus
22	52	34.9	138	14	098S74	090H4 xenopus lae
23	52	35.9	171	14	090H84	098S5 oncorhynchus
24	52	35.9	173	14	098S5	090X74 ictalurus p
25	52	35.9	176	14	090X74	081Y9 methanosarc
26	51.5	35.5	285	17	081Y9	098Y3 caenorhabdi
27	51	35.2	352	5	098X01	098Y3 caenorhabdi
28	51	35.2	810	4	098TW8	098Y3 caenorhabdi
29	51	35.2	867	4	098TW8	091X1 homo sapien
30	50.5	34.8	372	10	098TW9	091X9 cicer ariet
31	50	34.5	89	13	098S95	098S56 anas platyr
32	50	34.5	244	16	088T05	088T5 satcenella
33	50	34.5	331	5	018301	018301 caenorhabdi
34	49	33.8	175	13	098T03	098T3 brachydanio
35	49	33.8	315	11	098J40	098J40 mus musculu
36	49	33.8	504	11	099M45	099M45 mus musculu
37	49	33.8	505	11	P97770	P97770 mus musculu
38	49	33.8	571	5	0966F0	0666F0 caenorhabdi
39	49	33.8	576	5	098I14	098I14 caenorhabdi
40	49	33.8	589	5	098I14	098I14 caenorhabdi
41	49	33.8	613	5	088SPL	088SPL caenorhabdi
42	49	33.8	634	3	098EES	098EES neurospora
43	49	33.8	786	5	098S87	098S87 caenorhabdi
44	49	33.8	835	5	098S88	098S88 caenorhabdi
45	48	33.1	28	13	09PHN8	09PHN8 carassius a

RESULTS

ID	065130	PRELIMINARY	PR1	180 AA
AC	01-DRC-2501 (ITEM:rel. 19, created)			
DT	01-DRC-2001 (ITEM:rel. 19, last sequence update)			
ET	01-MAR-2002 (ITEM:rel. 20, last annotation update)			
DE	Preproglucagon.			
OS	Canis familiaris (Dog).			
OC	Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.			
OX	NCBI_TaxID=9615;			
RN	111			
RP	SEQUENCE FROM N.A.			
RA	Irwinn D.M.;			
RT	cDNA cloning of proglucagon from the stomach and pancreas of the			
RI	dog."			
RL	Submitted (SEP-2000) to the EMBL/Genbank/DBJ databases.			
DR	EMBL: AF308439; AAL09425.1; -			
DR	InterPro: IPR000532; Glucagon			
DR	Pham: PF00123; hormone2.3.			
DP	PROSITE: PS00260; GLUCAGON; UNKNOWN_3			
SO	SOURCE: 180 AA; 21114 MW; 80865641AFQ743H CRO64;			

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Query Match: Score 144, DB 67, length 180,
Percent Similarity: 100.0%, Ref. No. 6,56-14;
Matches: 28; Conservative: 0; Mismatches: 0; Indels: 0.
27 1 HAFGTFEIVSSVSYLLDQAAKEFIAMLVK 28
      ||| ||| ||| ||| ||| ||| ||| |||
28 98 HAEICFTIVSSVSYLLDQAAKEFIAMLVK 125

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RESULT

ID	PRELIMINARY	PRF	206 AA.
Q91410			
Q91410			
01-NOV-1996	(TREMblrel)	01	(Created)
01-NOV-1996	(TREMblrel)	01	Last sequence update

093id22 wollinella s
093id27 bacillus mus
p71006 bacillus sub
093id29 brachyspira
093id30 metanastor
093id31 metanastor
093id32 metanastor
093id33 xenopus lae
098sp5 oncorhynch
098id74 tetralurus f
098id9 metanastor s
098id11 caenorhabd
098id18 hemo sapren
098id19 hemo sapren
098id20 cicer ariet
098sp5 anas platyr
098id35 satrinella
018301 caenorhabd
098id30 brachyspira
098id30 mus muscul
099id45 mus muscul
p99770 mus muscul
096id10 caenorhabd
096id14 caenorhabd
096id15 caenorhabd
098sp1 caenorhabd
098es5 neurospora
098id37 caenorhabd
098id38 caenorhabd
098id38 carassius a

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DT 01-DEC-2001 (TREMblrel. 19, last annotation update)
DE proglucagon.
CN PROGLUCAGON.
OS Gallus gallus (Chicken).
OC Farkariyola; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OX NCBI_TaxID=9011;
RN 111
RP SEQUENCE FROM N.A.
RX MEDLINE:95295739; PubMed-7776976;
RA Irwin D.M., Wong J.;
RT "Trout and chicken proglucagon: alternative splicing generates mRNA
RT transcripts encoding glucagon-like peptide 2."
RL Mol. Endocrinol. 9:267-277(1995).
DR HMBL: S78477; AAB14506.1;
DR HSSP: P01274; ICGN.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 3.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA; 3.
DR PROSITE: PS00260; GLUCAGON; 3.
SQ SEQUENCE: 206 AA; 23875 MW; AB299E1B02PCGAA4 CRC64.

Query Match 91.0%; Score 132; DB 13; Length 206;
Best Local Similarity 88.9%; Pred. No. 5, 1e-12;
Matches 24; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

UY 1 HAAGTSDVSSVYLKQAAKEFLAMV 27
|||||:|||||:|||||:|||||:
DB 118 HAAGTSDVSSVYLKQAAKEFLAMV 144

RESULT 3
ID 012956 PRELIMINARY; PRT: 204 AA.
AC 012956; 012955;
DT 01-JUL-1997 (TREMblrel. 04, created)
DT 01-JUL-1997 (TREMblrel. 04, last sequence update)
DT 01-JUN-2001 (TREMblrel. 17, last annotation update)
DE Glucagon precursor.
OS Heloderma suspectum (Gila monster).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Lepidosauria; Squamata; Scleroglossa; Anguilliformes; Helodermatidae;
OC Heloderma.
OX NCBI_TaxID=8554;
RN 111
RP SEQUENCE FROM N.A., ALTERNATIVE SPLICING, AND TISSUE SPECIFICITY.
RX TISSUE-INTESTINE, AND PANCREAS;
RX MEDLINE-97172477; PubMed-9020121;
RA Chen Y.F., Drucker D.J.;
RT "Tissue-specific expression of unique mRNAs that encode proglucagon-
RT derived peptides or exendin 4 in the lizard."
RL J. Biol. Chem. 272:4108-4115(1997).
CC 1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC THE BLOOD SUGAR LEVEL (BY SIMILARITY).
CC 2- ALTERNATIVE PRODUCTS: 2 ISOPFORMS; LP11 (SHOWN HERE) AND LP1; ARE
CC PRODUCED BY ALTERNATIVE SPLICING.
CC 3- TISSUE SPECIFICITY: ISOPFORM LP11 IS EXPRESSED IN BOTH PANCREAS AND
CC INTESTINE. EXPRESSION OF ISOPFORM LP1 IS RESTRICTED TO THE
CC PANCREAS. NEITHER ISOPFORM IS DETECTED IN SALIVARY GLAND.
CC 4- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS IN
CC RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC 5- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR HMBL: U77612; AAB51129.1;
DR EMBL: U77611; AAB51128.1;
DR HSSP: P01274; ICGN.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 3.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA; 3.
DR PROSITE: PS00260; GLUCAGON; 2.
SQ Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;

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KW Alternative splicing.
FT SIGNAL 1
FT SIGNAL 20
FT PEPTIDE 21 50
FT PEPTIDE 53 81
FT PEPTIDE 116 145
FT PEPTIDE 164 196
FT VARSPLIC 149 149
FT VARSPLIC 150 204
FT VARSPLIC 204 AA; 23553 MW; B132E3FE46873E72 CRC64;

Query Match 86.9%; Score 126; DB 13; Length 204;
Best Local Similarity 85.2%; Pred. No. 4, 2e-11;
Matches 23; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

UY 1 HAAGTSDVSSVYLKQAAKEFLAMV 27
|||||:|||||:|||||:|||||:
DB 116 HAAGTSDVSSVYLKQAAKEFLAMV 142

RESULT 4
ID 080WU19 PRELIMINARY; PRT: 220 AA.
AC 080WU19;
DT 01-MAR-2002 (TREMblrel. 20, created)
DT 01-MAR-2002 (TREMblrel. 20, last sequence update)
DT 01-JUN-2002 (TREMblrel. 21, last annotation update)
DE proglucagon.
OS Hoplobatrachus rugulosus.
OC Farkariyola; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranioidea; Ranidae;
OC Hoplobatrachus.
OX NCBI_TaxID=110072;
RN 111
RP SEQUENCE FROM N.A.
RA Yeung C.-M., Chow H.K.C.;
RT "Identification of a proglucagon cDNA from Rana tigrina rugulosa that
RT encodes two GLP-1s."
RL Gen. Comp. Endocrinol. 124:0-0(2001).
DR HMBL: AF324209; AAL35758.1;
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 4.
DR PRINTS: PR00275; GLUCA; 3.
DR SMART: SM00070; GLUCA; 4.
DR PROSITE: PS00260; GLUCA; 3.
SQ SEQUENCE: 220 AA; 25615 MW; C72D926E7F89E381 CRC64;

Query Match 81.4%; Score 118; DB 13; Length 220;
Best Local Similarity 75.0%; Pred. No. 7, 5e-10;
Matches 21; Conservative 5; Mismatches 2; Indels 0; Gaps 0;

UY 1 HAAGTSDVSSVYLKQAAKEFLAMV 28
|||||:|||||:|||||:|||||:
DB 135 HAAGTSDVSSVYLKQAAKEFLAMV 162

RESULT 5
ID 042143 PRELIMINARY; PRT: 266 AA.
AC 042143;
DT 01-JAN-1998 (TREMblrel. 05, created)
DT 01-JAN-1998 (TREMblrel. 05, last sequence update)
DT 01-JUN-2001 (TREMblrel. 17, last annotation update)
DE Glucagon I precursor [Contains: Glucagon, glucagon-like peptide 1A
DE (GLP-1A); glucagon-like peptide 1B (GLP-1B); glucagon-like peptide 1C
DE (GLP-1C); glucagon-like peptide 2 (GLP-2)].
OS Xenopus laevis (African clawed frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipidoidea; Pipidae;
OC Xenopodinae; Xenopus.
OX NCBI_TaxID=8355;
RN 111
RP SEQUENCE FROM N.A., AND ALTERNATIVE SPLICING.
RX TISSUE-PANCREAS;

```

RX MEDLINE-97368292; PubMed 9223287;
 RA Irwin D.M., Satkunarajah M., Wen Y., Rubnaker P.L., Pederson P.A.,
 Wheeler M.B.,
 RT "The Xenopus proglucagon gene encodes novel GLP-1-like peptides with
 insulinotropic properties.";
 RL Proc Natl Acad Sci U S A. 94:7915-7920(1997).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 CC THE BLOOD SUGAR LEVEL.
 CC -1- ALTERNATIVE PRODUCTS: 2 ISOFORMS: 1 (SHOWN HERE) AND 2: ARE
 CC PRODUCED BY ALTERNATIVE SPLICING.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 DR EMBL: AF04432; NAR65660.1; -
 DR HSSP: P01274; IGCN.
 DR InterPro: IPR000532; Glucagon
 DR Pfam: PF00123; hormone2.5.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA.5.
 DR PROSITE: PS00260; GLUCAGON.5.
 DR Glucagon family; Hormone; Signal; Cleavage on pair of basic residues;
 KM Multigene family; Alternative splicing.
 FT SIGNAL. 1 2
 FT PEPTIDE 53 81 GLUCAGON-LIKE PEPTIDE 1A.
 FT PEPTIDE 97 133 GLUCAGON-LIKE PEPTIDE 1B.
 FT PEPTIDE 142 173 GLUCAGON-LIKE PEPTIDE 1C.
 FT PEPTIDE 180 211 GLUCAGON-LIKE PEPTIDE 1D.
 FT PEPTIDE 227 259 GLUCAGON-LIKE PEPTIDE 2.
 FT VARSPLIT 214 261 MISSING (IN ISOFORM 2).
 SO SEQUENCE 266 AA; 30951 MW, 544178MC20AF82C CRC64.

Query Match 78.6%; Score 114; DB 13; Length 266,
 Best Local Similarity 67.9%; Pred. No. 8; 09;
 Matches 19; Conservative 7; Mismatches 2; Indels 0; Gaps 0;

OY 1 HAEFTSDVSSYLEGGAKEFIAMWL 28
 DB 180 HAEFTSDVSSYLEGGAKEFIAMWL 207

RESULT 6
 ID O91409 PRELIMINARY; PRT; 72 AA.
 AC O91409; 091232;
 DT 01-NOV-1996 (TRENBLER 01, Created)
 DT 01-NOV-1996 (TRENBLER 01, Last sequence update)
 DE PROGLUCAGON (Fragment).
 OS Oncochrychus tschawtscha (chinook salmon) (King salmon).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
 OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncochrychus.
 OK NCBI_TaxID=74940;
 RN 1;
 RP SEQUENCE FROM N.A.
 RX MEDLINE-95295739; PubMed-7776376.
 RA Irwin D.M., Wong J.;
 RT "Trout and chicken proglucagon: alternative splicing generates mRNA
 transcripts encoding glucagon-like peptide 2.";
 RL Mol. Endocrinol. 9:267-277(1995).
 CC EMBL: S78474; AAC14283.1; -
 CC EMBL: U19920; AAC59670.1; -
 CC HSSP: P01274; IGCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2.2.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA.2.
 DR PROSITE: PS00260; GLUCAGON.
 DR NON_TER 1
 FT NON_TER 1
 SO SEQUENCE 72 AA; 8293 MW, 858435MC1260A3 CRC64.

Query Match 75.2%; Score 109; DB 13; Length 72;
 Best Local Similarity 69.2%; Pred. No. 4; 9e-09;
 Matches 18; Conservative 7; Mismatches 1; Indels 0; Gaps 0;

OY 1 HAEFTSDVSSYLEGGAKEFIAMWL 26
 DB 39 HAEFTSDVSSYLEGGAKEFIAMWL 64

RESULT 7
 ID O91971 PRELIMINARY; PRT; 178 AA.
 AC O91971; 09186; 092169;
 DT 01-NOV-1996 (TRENBLER 01, Created)
 DT 01-NOV-1996 (TRENBLER 01, Last sequence update)
 DT 01-JUN-2001 (TRENBLER 17, Last annotation update)
 DE Glucagon I precursor.
 OS Oncochrychus mykiss (Rainbow trout) (Salmo gairdneri).
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostomi;
 OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncochrychus.
 OK NCBI_TaxID=8022;
 RN 1;
 RP SEQUENCE FROM N.A., AND ALTERNATIVE SPLICING.
 RX TISSUE-DISTAL SMALL INTESTINE, AND PANCREAS;
 DR MEDLINE-95295739; PubMed-7776976;
 RA Irwin D.M., Wong J.;
 RT "Trout and chicken proglucagon: alternative splicing generates mRNA
 transcripts encoding glucagon-like peptide 2.";
 RL Mol. Endocrinol. 9:267-277(1995).
 CC EMBL: S78474; AAC14283.1; -
 CC EMBL: U19920; AAC59670.1; -
 CC HSSP: P01274; IGCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2.2.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA.3.
 DR PROSITE: PS00260; GLUCAGON.3.
 KM Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
 KW Alternative splicing; Multigene family.
 FT SIGNAL. 1 2
 FT PEPTIDE 52 80 GLUCAGON.
 FT PEPTIDE 85 120 GLUCAGON-LIKE PEPTIDE 1.
 FT PEPTIDE 137 169 GLUCAGON-LIKE PEPTIDE 2.
 FT VARSPLIT 124 178 MISSING (IN PANCREATIC ISOFORM).
 SO SEQUENCE 178 AA; 20034 MW, 576980MC24058F CRC64.

Query Match 75.2%; Score 109; DB 13; Length 178;
 Best Local Similarity 69.2%; Pred. No. 1; 4e-08;
 Matches 18; Conservative 7; Mismatches 1; Indels 0; Gaps 0;

OY 1 HAEFTSDVSSYLEGGAKEFIAMWL 26
 DB 90 HAEFTSDVSSYLEGGAKEFIAMWL 115

RESULT 8
 ID O91189 PRELIMINARY; PRT; 178 AA.
 AC O91189; 092168;
 DT 01-NOV-1996 (TRENBLER 01, Created)
 DT 01-NOV-1996 (TRENBLER 01, Last sequence update)
 DT 01-JUN-2001 (TRENBLER 17, Last annotation update)
 DE Glucagon II precursor.

SEQUENCE 160 AA: 18042 MW: 9452530.5A74072 QPC64;

Query Match 70.3% Score 102; DB 13; Length 160.

Best Local Similarity 53.6% Pred. No. 1 4e-07; Mismatches 15; Conservative 11; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLPCQAARFIAWLVK 28

DB 82 HADGFTNDMTSYLDKAKARFVSMLAR 109

RESULT 11

OYDDE6 PRELIMINARY; PRT; 121 AA.

DT 01-MAR-2001 (TREMBLrel 16, Created)

DT 01-MAR-2001 (TREMBLrel 16, Last sequence update)

DT 01-DEC-2001 (TREMBLrel 19, Last annotation update)

DE Glucagon polypeptide.

CCG OR GLO.

OS Brachydanio rerio (Zebrafish) (Zebra danio).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;

OC Cyprinidae; Danio.

OX NCBI_TaxId=7955;

KN 11

RP SEQUENCE FROM N.A.

RX MEDLINE-99425190; PubMed-10495291;

RA Argenton F., Zecchin E., Hortolussi M.;

RT "Early appearance of pancreatic hormone-expressing cells in the

RL zebrafish embryo."

RT Mech. Dev. 87:217-221(1999).

DR EMBL: AJ133697; CAC20106 1;

DR HSSP: P01274; 1GCM.

DR ZFIN: ZDB-GENE-010219-1; gca.

DR InterPro: IPR000532; Glucagon.

DR Pfam: PF00123; hormone2; 2.

DR PRINTS: PR00275; GLUCAGON.

DR SMART: SM00070; GLUCAG 2

DR PROSITE: PS00260; GLUCAGON; 1

DR POLYPOLe1n

FT CHAIN 49 79 GLUCAGON-LIKE PEPTIDE 1.

FT SBOURCE 121 AA: 13537 MW: A853857690DA180P CAC64;

SO SEQUENCE 121 AA: 13537 MW: A853857690DA180P CAC64;

Query Match 67.6% Score 98; DB 13; Length 121;

Best Local Similarity 73.1% Pred. No. 4 2e-07; Mismatches 19; Conservative 4; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLPCQAARFIAWLVK 28

DB 84 HAEGFTSDVSSYLPCQAARFIAWLVK 113

RESULT 12

OYDDE6 PRELIMINARY; PRT; 62 AA.

DT 01-MAR-2001 (TREMBLrel 13, Created)

DT 01-MAR-2001 (TREMBLrel 16, Last sequence update)

DT 01-JUN-2002 (TREMBLrel 21, Last annotation update)

DE Glucagon precursor (Contains: glucagon 23, glucagon-like

peptide) (Fragments).

OS Scyliorhinus canicula (Spotted dogfish) (Spotted catshark).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes;

OC Plasmobranchii; Galeomorphii; Galeoidea; Carcharhiniformes;

OC Scyliorhinidae; Scyliorhinus.

OX NCBI_TaxId=7830;

KN 11

RP SEQUENCE.

RX TISSUE-PANCREAS;

MDLINE-94286411; PubMed-8015974;

RA Conlon J.M., Hazon N., Thim L.;

RT "Primary structures of peptides derived from glucagon isolated from

the pancreas of the elasmobranch fish, Scyliorhinus canicula."

RT Peptides 15:163-167(1994).

OC THE BLOOD SUGAR LEVEL.

OC -1- SIMILARITY RELIGIONS TO THE GLUCAGON FAMILY.

DR HSSP: P01274; 1GCM.

DR InterPro: IPR000532; Glucagon.

DR PRINTS: PR00275; GLUCAGON.

DR SMART: SM00070; GLUCAG 2.

DR PROSITE: PS00260; GLUCAGON; 2.

DR Glucagon family; Hormone.

FT PEPTIDE 1 29 GLUCAGON-29.

FT NON-CONS 33 34 GLUCAGON-33.

FT PEPTIDE 34 62

FT SEQUENCE 62 AA: 7270 MW: C5FF4871D069C01 CAC64;

Query Match 65.8% Score 95; DB 13; Length 62;

Best Local Similarity 55.6% Pred. No. 5 6e-07;

Mismatches 15; Conservative 7; Mismatches 5; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLPCQAARFIAWLVK 27

DB 1 HSGGFTSDVSSYMLNKKAKDFVWVLM 27

RESULT 13

OYDDE6 PRELIMINARY; PRT; 96 AA.

DT 01-MAR-2001 (TREMBLrel 16, Created)

DT 01-MAR-2001 (TREMBLrel 16, Last sequence update)

DT 01-DEC-2001 (TREMBLrel 19, Last annotation update)

DE Proglucagon (Fragment).

OS Ambloplites rostratus.

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;

OC Acarichthys; Acarichthys; Perciformes; Percoidae;

OC Centrarchidae; Ambloplites.

OX NCBI_TaxId=109273;

KN 11

RP SEQUENCE FROM N.A.

RX Al-Mahrouk A.A., Twinn J.M., Youson J.H.;

RT "Rock Bass Proglucagon."

RT Submitted (SEP-1999) to the EMBL/GenBank/DBJ databases.

DR EMBL: AF190499; AAC16778.1;

DR HSSP: P01274; 1GCM.

DR InterPro: IPR000532; Glucagon.

DR Pfam: PF00123; hormone2; 2.

DR PRINTS: PR00275; GLUCAGON.

DR SMART: SM00070; GLUCAG 2

DR PROSITE: PS00260; GLUCAGON; UNKNOWN_1

FT NON-TER 1 1

FT CHAIN 1 >29 GLUCAGON.

FT CHAIN 39 >70 GLUCAGON-LIKE PEPTIDE 1.

FT CHAIN 86 >94 GLUCAGON-LIKE PEPTIDE 2.

FT NON-TER 96 96

SV SEQUENCE 96 AA: 11225 MW: 6435035EDDAU000 CAC64;

Query Match 60.7% Score 88; DB 13; Length 96;

Best Local Similarity 51.9% Pred. No. 1 1e-05; Mismatches 14; Conservative 9; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLPCQAARFIAWLVK 27

DB 1 HSGGFTSDVSSYMLNKKAKDFVWVLM 27

RESULT 14

OYDDE6 PRELIMINARY; PRT; 120 AA.

DT 01-MAR-2001 (TREMBLrel 16, Created)

DT 01-MAR-2001 (TREMBLrel 16, Last sequence update)

DT 01-DEC-2001 (TREMBLrel 19, Last annotation update)

DE Proglucagon (Fragment).

OS Ambloplites rostratus.

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;

OC Acarichthys; Acarichthys; Perciformes; Percoidae;

OC Centrarchidae; Ambloplites.

OX NCBI_TaxId=109273;

KN 11

RP SEQUENCE FROM N.A.

RX Al-Mahrouk A.A., Twinn J.M., Youson J.H.;

RT "Rock Bass Proglucagon."

RT Submitted (SEP-1999) to the EMBL/GenBank/DBJ databases.

DR EMBL: AF190499; AAC16778.1;

DR HSSP: P01274; 1GCM.

DR InterPro: IPR000532; Glucagon.

DR Pfam: PF00123; hormone2; 2.

DR PRINTS: PR00275; GLUCAGON.

DR SMART: SM00070; GLUCAG 2

DR PROSITE: PS00260; GLUCAGON; UNKNOWN_1

FT NON-TER 1 1

FT CHAIN 1 >29 GLUCAGON.

FT CHAIN 39 >70 GLUCAGON-LIKE PEPTIDE 1.

FT CHAIN 86 >94 GLUCAGON-LIKE PEPTIDE 2.

FT NON-TER 96 96

SV SEQUENCE 96 AA: 11225 MW: 6435035EDDAU000 CAC64;

RA	Sasaki H., Sato K., Schoenbach C., Seva T., Shibaoka Y., Storch K.-F., Suzuki H., Toyooka K., Wang J.H., Weitz C., Whittaker G., Wilming L., Wynshaw-Horis A., Yoshida K., Hasegawa Y., Kawasaki H., Kohsaki S., Hayashizaki Y.
RA	*Functional annotation of a full-length mouse cDNA collection.*
RL	Nature 409:685-690(2001).
RJ	EMBL: AK008525; BAB25720.1; "
DR	HSSP: P01274; 197N
DR	MGI: MGI:107504; Gfp-
DR	InterPro: IPR00532; Glucagon-
DR	Pfam: PF00123; hormone2_1.
DR	SMART: SM00070; GLUCA.L.
DR	PROSITE: PS00260; GLUTAGON; 1.
FT	NON_TER
SO	SPOUNCCE 130 AA; 14906 MW; 92838631E+2A7992 CMC04;
Query Match	
Best Local Similarity 40.7%; Score 59; DB 11; length 130;	
Matches 11; Conservative 7; Mismatches 9; Indels 0; gaps	
OY	1 HARGCTTSUWSSYLHGOAKKEFLIAMIV 27 : : : : : DB 30 YAEGLTFLSDYSIAMDKIROGDVFNMLL 56

Query Match	40.78;	Score 59;	DH 11;	Length 130;
Best Local Similarity	40.78;	Pred. No. 0.41;		
Matches 11;	Conservative 7;	Mismatches 9;	Indels 0;	Gaps 0


```

PR 24-JAN-1990: 900S-0468736.
PR 10-DEC-1993: 930S-0165516.
XX
PA (BUCKLEY) BUCKLEY D I.
PA (HABENER) HABENER J F.
PA (MALLORY) MALLORY J B.
PA (MOJISOV) MOJISOV S.
XX
PI Buckley DI, Habener JF, Mallory JB, Mojsov S.
PI WPI: 1996-383697/38.
XX
PR New modified glucagon-like peptide 1 fragments - have higher
PR activity than glucagon or have improved plasma stability, useful for
PR treating type II diabetes
XX
PS Example 1: page -: 16pp: English.
XX
CC The present peptide is a specific example of a claimed human
CC glucagon like peptide 1 (GLP-1) analogue, which is useful for
CC stimulating insulin release from pancreatic islet cells, especially
CC in the treatment of type II diabetes at doses of 1 pg/kg to
CC 1 mg/kg.
XX
SO Sequence 31 AA:

Query Match 93.1%; Score 135; DB 17; Length 31;
Best Local Similarity 93.1%; Pred. No. 1.2e-13;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

OY 1 AEGFTSDVSSYLEGQAAEFIAWLVKGR 29
Db 2 AEGFTSDVSSYLEGQAAEFIAWLVKGR 30

RESULT 2
AAW03902
ID AAW03902 standard; peptide: 31 AA.
XX
AC AAW03902:
XX
DE 15-APR-1997 (first entry)
XX
DE Glucagon like peptide 1 (7-37) analogue Ala26.
XX
KW Human; glucagon like peptide; GLP-1; analogue; stimulation;
KW pancreas; insulin; islet cell; treatment; type II diabetes.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FH FT Misc difference 20 /note- "Wild type Lys substituted with Ala"
FH FT Misc difference 29 /note- "optionally absent when Arg30 and Gly31 are
FH FT Misc difference 30 /note- absent"
FH FT Misc difference 31 /note- "optionally absent when Gly31 is absent"
FH FT Misc difference 31 /note- "optionally absent"
XX
PN D55545618-A.
XX
PD 13 AUG 1996.
XX
PE 24-JAN 1990: 900S-0468736.
XX
PR 20-SEP-1991: 910S-0762768.
PR 24 JAN 1996: 900S-0468746.
PR 10-DEC-1993: 930S-0165516.
XX
PA (BUCKLEY) BUCKLEY D I.
PA (HABENER) HABENER J F.
XX

```

```

PA (MALLORY) MALLORY J B.
PA (MOJISOV) MOJISOV S.
XX
PI Buckley DI, Habener JF, Mallory JB, Mojsov S.
PI WPI: 1996-383697/38.
XX
PR New modified glucagon-like peptide 1 fragments - have higher
PR activity than glucagon or have improved plasma stability, useful for
PR treating type II diabetes
XX
PS Example 1: page -: 16pp: English.
XX
CC The present peptide is a specific example of a claimed human
CC glucagon like peptide 1 (GLP-1) analogue, which is useful for
CC stimulating insulin release from pancreatic islet cells, especially
CC in the treatment of type II diabetes at doses of 1 pg/kg to
CC 1 mg/kg.
XX
SO Sequence 31 AA:

Query Match 93.1%; Score 135; DB 17; Length 31;
Best Local Similarity 93.1%; Pred. No. 1.2e-13;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

OY 1 AEGFTSDVSSYLEGQAAEFIAWLVKGR 29
Db 2 AEGFTSDVSSYLEGQAAEFIAWLVKGR 30

RESULT 3
AAW50905
ID AAW50905 standard; peptide: 29 AA.
XX
AC AAW50905:
XX
DE 17-AUG-1998 (first entry)
XX
DE Glucagon-like peptide-1 analogue SEQ ID NO:4.
XX
KW Glucagon-like peptide-1; GLP-1 (7-37); GLP 1 analogue; surgical trauma;
KW stress; hormonal response; insulin resistance; catabolic reaction;
KW human; incretin hormone.
XX
OS Synthetic.
XX
FH Homo sapiens.
XX
FH Key Location/Qualifiers
FH FT Modified-site 1 /note- "Ala is modified with: 4-imidazopropionyl;
FH FT 4-imidazopropionyl; or
FH FT 4-imidazo-alpha,alpha-dimethyl-acetyl"
FH FT Misc difference 19 /label= Lys, Arg
FH FT Modified-site 27 /note- "Lys is optionally modified with a group
FH FT consisting of C6-C10 unbranched acyl"
FH FT Modified-site 29 /note- "amidated; or attached to Gly-OH"
XX
PN W09808873-A1.
XX
PD 05-MAR-1998.
XX
PE 26-AUG-1997: 97WO-0515042.
XX
PR 21-AUG-1997: 97US-0024982.
PR 30-AUG-1996: 96US-0024982.
XX
PA (LILLY & CO ELI.
PA ELI
PI Eftendic S.
XX

```

DR WPI: 1998-239722/21.

XX
PT Use of glucagon-like peptide 1 and analogues and their derivatives
PT - to attenuate post-surgical catabolic changes, insulin resistance
PT and hormonal responses to stress

PS Claim 1: Page 12; 42pp; English.

XX
CC The present sequence represents a glucagon-like peptide-1 (GLP-1)
CC analogue, which is used in the methods of the invention. The methods
CC are: (1) for attenuating post-surgical catabolic changes and insulin
CC resistance, comprising administering glucagon-like peptide-1 (GLP-1), a
CC GLP-1 analogue, a GLP-1 derivative, or a salt of this compound; (2) for
CC attenuating post-surgical catabolic changes and hormonal responses to
CC stress, comprising administering a compound which exerts insulinotropic
CC activity by interacting with the same receptor (or receptors) with which
CC GLP-1, GLP-1 analogues and GLP-1 derivatives interact in exerting their
CC insulinotropic activity, and (3) for attenuating post-surgical catabolic
CC changes and hormonal responses to stress, comprising administering a
CC compound which enhances insulin sensitivity by interacting with the same
CC receptor (or receptors) with which GLP-1, GLP-1 analogues and GLP-1
CC derivatives interact to enhance insulin sensitivity. The processes are
CC useful for improving recovery after surgery by preventing the catabolic
CC reaction and insulin resistance caused by surgical trauma and
CC exacerbated by pre-operative fasting. GLP-1's short half-life, and hence
CC the need for continuous administration, are not disadvantages, as the
CC patient is usually hospitalized before surgery, and fluids are
CC continuously administered parenterally, before, during and after surgery.

XX
SQ Sequence 29 AA:

Query Match 92.4%; Score 134, DB 15; Length 29;
Best Local Similarity 96.6%; Pred. No. 1.6e-13;
Matches 28; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 29
DB 1 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 29

RESULT 4
AAV83148
ID AAV83148 standard; peptide; 29 AA.

XX
AC AAV83148;
XX
DT 24-JUL-2000 (first entry)
XX
DE Glucagon-like peptide-1.
XX
KW Glucagon-like peptide-1, GLP-1, treatment; pulmonary; inhalation;
KW lungs; diabetes; hyperglycaemia.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Misc-difference 19 /note="lys or Arg"
XX
PN WO200012116 A1.
XX
PD 09-MAR-2000
XX
PP 24-AUG-1999; 99WO-US19348.
XX
PR 28-AUG-1998; 98US-0098273.
PR 11-SEP-1998; 98US-0100312.
XX
PA (Elli.) Lilly & Co Eli.
XX
PI Hughes BL, Wolff RK;
XX
DP WPI: 2000-237776/20.

XX
PT Administration of glucagon-like peptide-1 molecule by pulmonary means,
PT useful for treating diabetes and hyperglycemia
PT disclosures; Page 42; 45pp; English.

XX
CC Administration of a glucagon-like peptide 1 (GLP-1) molecule by
CC inhalation can be used to treat diabetes and hyperglycemia.
CC Analogs and derivatives of the GLP-1 molecule can also be used in
CC the treatment method. The GLP-1 molecule can be reproducibly and
CC effectively delivered through the lungs.

XX
SQ Sequence 30 AA:

Query Match 92.4%; Score 134, DB 21; Length 30;
Best Local Similarity 93.1%; Pred. No. 1.7e-13;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 29
DB 2 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 30

RESULT 5
AAR45435
ID AAR45435 standard; protein; 30 AA.

XX
AC AAR45435;
XX
DT 27-JUN-1994 (first entry)
XX
DE Insulinotropic derivative.
XX
DE Insulinotropic activity; enhancing insulin activity; treatment;
XX
KM Type II diabetes.
XX
OS Synthetic.
XX
PN W09325579-A.
XX
PD 23-DEC-1993.
XX
PE 14-APR-1993; 93WO-US03388.
XX
PR 15-JUN-1992; 92US-0899073.
XX
PA (Pfizer) Pfizer Inc.
XX
PI Andrews GC, Daumy GO, Francoeur ML, Larson ER;
XX
WK WPI: 1994-007457/01.
XX
PT New derivs. of glucagon-like peptide 1 and insulinotropic - used for
PT enhancing insulin action in a mammal, partic. by iontophoretic admin.
XX
PS Claim 3: Page 20; 32pp; English.
XX
CC The sequence is that of a derivative of insulinotropic which
CC has insulinotropic activity and is useful for enhancing insulin
CC action in a mammal, partic. for treating type II diabetes
CC (claimed). It is partic. suited for delivery to a mammal by
CC iontophoresis.

RESULT 6
AAK63247
ID AAK63247 standard; peptide; 30 AA.
XX
AC AAK63247;
XX
DT 02 MAY-1995 (first entry)
XX
DE Insulinotropin (GIP-1(7-36)) for use in treating NIDDM.
XX
KW Insulinotropic activity; GLP 1; glucagon-like protein 1; NIDDM;
XX non-insulin dependent diabetes mellitus; insulinotropin; truncated.
OS Synthetic.
XX
PN KIP619322-A.
XX
PD 12-OCT-1994.
XX
PE 10-FEB-1994; 94BP-0300981.
XX
PR 07-APR-1993; 93US-0044133.
XX
PA (PEIZ) PEIZER INC.
XX (PEIZ) PEIZER CORP.
XX
PI Danley DE, Gelfand RA, Geoghagan KP, Kim Y, Lambert WJ;
XX Or H, Oth, Hong O, Yesook K;
XX WPI: 1994-311774/39
XX
PT Treatment of non-insulin dependent diabetes mellitus - using a
XX glucagon-like peptide 1 or deriv. with prolonged action for
XX sustained glycemic control
XX
PS Claim 2; Page 46; 70pp; English.
XX
CC This peptide is GLP-1(7-36) [GIP = glucagon-like peptide], a truncated
XX deriv. of GLP-1, GLP-1 and its deriv's are useful in the treatment of
XX Non-Insulin dependent Diabetes Mellitus (NIDDM). During processing of
XX the pancreas and intestine, GLP-1 (AAK63245) is converted to a 31 amino
XX acid peptide having amino acids 7-37 of GLP-1, alternatively referred
XX to as insulinotropin. GLP-1(7-37) has insulinotropic activity, ie. it
XX is able to stimulate, or cause to be stimulated, the synthesis of the
XX hormone insulin. Other derivs. of GLP-1 are shown in AAK63246-51. It
XX has been discovered that prolonged plasma elevations of GLP-1, and
XX related polypeptides, are necessary during the meal and beyond to
XX achieve sustained glycemic control in patients with NIDDM. The invention
XX provides a compsn. that has prolonged action after each administration.
SO Sequence 30 AA;
Query Match 92.4%; Score 134; DB 15; Length 30;
Best Local Similarity 93.1%; Pred. No. 1,7e-13;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
OY 1 AAGTFTSDVSSYLEGQAAKEFIAWEVKGR 29
DB 2 AAGTFTSDVSSYLEGQAAKEFIAWEVKGR 30
RESULT 7
AAK69063
ID AAK69063 standard; peptide; 30 AA.
XX
AC AAK69063;
XX
DT 23-AUG-1995 (first entry)
XX
DE Amidated glucagon like peptide 1 (GLP1) (7-36)-NH2.
XX
KW Glucagon Like Peptide; GLP; transpeptidation; endopeptidase;
XX

KW trypsin; thrombin; cleavage.
XX
OS Synthetic.
XX
FH Key location/Qualifiers
FT Modified-site 30
XX /label= Arg-NH2
XX
PN W09505405-A.
XX
PD 02-FEB-1995.
XX
PE 19-JUL-1994; 94WO-0508125.
XX
PR 20-JUL-1993; 93US-0095162.
XX
PA (BION-) BIONEHRASKA INC.
XX
PI Henriksen D, Manning S, Partridge B, Stout J, Wagner FW;
XX WPI: 1995-075233/10.
XX
DR Transpeptidation of recombinant polypeptides - using
XX endopeptidase such as trypsin or thrombin to modify C-terminal
XX residue.
XX
PS Claim 33; Page 50; 69pp; English.
XX
CC The naturally occurring sequence of Glucagon like peptide 1 (GLP1)
XX is AAK69072. It is a 36 AA peptide that has been recombinantly
XX produced but without a mechanism for providing for the amidation of
XX the C-terminal Arg residue. Amidated recombinant GLP1 (7-36)-NH2
XX (AAK69063) was prepd. from a multicopy fusion protein contg. four
XX copies of a modified truncated GLP peptide having AA residues 7-34
XX of the native polypeptide and the terminal AA residues A-F-A at
XX residues 35-37 (GLP1 (7-34)-A-F-A) (AAK69064). The recombinant GLP1 (7-
XX 34)-A-F-A can be transpeptidated to yield the modified recombinant
XX cleave GLP1 (7-36)-NH2 (AAK69063) as follows. Trypsin was used to
XX Gly-Arg-NH2 or Gly-Arg-Gly addition units so that the cleavage of
XX the Ala-Phe-Arg leaving unit is followed by the addition of
XX Gly-Arg-NH2 or Gly-Arg-Gly to the core GLP1 (7-34) to yield either
XX amidated 7-36 GLP1-NH2 or GLP1 7-36 with a terminal Gly (AAK69065).
SO Sequence 30 AA;
Query Match 92.4%; Score 134; DB 16; Length 30;
Best Local Similarity 93.1%; Pred. No. 1,7e-13;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
OY 1 AAGTFTSDVSSYLEGQAAKEFIAWEVKGR 29
DB 2 AAGTFTSDVSSYLEGQAAKEFIAWEVKGR 30
RESULT 8
AAK79809
ID AAK79809 standard; peptide; 30 AA.
XX
AC AAK79809;
XX
DT 01-FEB-1996 (first entry)
XX
DE Glucagon like peptide GLP-1 (7-36)amide.
XX
KW Glucagon like peptide; GLP-1 (7-36)amide; type II diabetes;
XX non-insulin dependent; divalent metal cation; zinc.
OS Synthetic.
XX
FH Key location/Qualifiers
FT Modified-site 30
XX /note= "amidated"

```

XX  EP658568-A1.
PN
XX
XX  21-JUN-1995.
PD
XX
XX  02-DEC-1994; 94EP-0308950.
PF
XX
XX  09-DEC-1994; 93NS-0164277.
PR
XX
XX  (HILL) LILLY & CO ELI.
PA
XX  Galloway JA, Hoffmann JA.
PI
XX
XX  WPI: 1995-217011/29.
DR
XX
XX  New divalent metal complexes of glucagon like peptide 1 - useful for
PT  treating type II diabetes
XX
XX  Claim 4; Page 4; 10pp; English.
PS
XX  AAR79809 is the glucagon like peptide GLP-1 (7-36)amide. When
CC  complexed to a divalent metal cation (pref. zinc) it can be
CC  used to treat type II (non insulin dependent) diabetes.
XX
XX  Sequence 30 AA:
SQ
XX
XX  Query Match          92.4%; Score 134; DB 16; Length 30;
XX  Best Local Similarity 93.1%; Pred. No. 1,7e-13;
XX  Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

UY  1 AEGFTSDVSSYLEGQAAKEFIAWEVKGR 29
    |||||
DB  2 AEGFTSDVSSYLEGQAAKEFIAWEVKGR 30

RESULT 9
AAR80548
ID  AAR80548 standard; peptide; 30 AA.
XX
XX  AAR80548;
AC
XX
XX  28-FEB-1996 (first entry)
DT
XX
XX  Human glucagon like peptide (GLP-1).
DE
XX
XX  Exendin-4; diabetes mellitus; hyperglycaemia;
KW  insulinotropic peptide; glucagon like peptide; GLP-1.
XX
XX  Homo sapiens.
OS
XX
XX  US5424286-A.
PN
XX
XX  13-JUN-1995.
PD
XX
XX  24-MAY-1991; 93NS-0066480
PF
XX
XX  24-MAY-1993; 93US 0066480.
PR
XX
XX  (ENGL) ENG J.
PA
XX
XX  Eng J;
PI
XX
XX  WPI: 1995-262627/34.
DR
XX
XX  Stimulating/inhibiting insulin release with exendin polypeptide(s)
PT  for treating diabetes mellitus and preventing hyperglycaemia.
XX
XX  Disclosure; Columns 5-6; 17pp; English.
PS
XX  AAR80548 is the human glucagon like peptide (GLP-1), to which the
CC  Heloderma horridum/suspectum exendin-3/-4 peptides are analogous.
CC  The exendin peptides are insulinotropic, and can therefore be used
CC  in the treatment of diabetes mellitus (types I or II), and for the

```

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CC  prevention of hyperglycaemia.
XX
XX  Sequence 30 AA:
SQ
XX
XX  Query Match          92.4%; Score 134; DB 16; Length 30;
XX  Best Local Similarity 93.1%; Pred. No. 1,7e-13;
XX  Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

UY  1 AEGFTSDVSSYLEGQAAKEFIAWEVKGR 29
    |||||
DB  2 AEGFTSDVSSYLEGQAAKEFIAWEVKGR 30

RESULT 10
AAR98956
ID  AAR98956 standard; peptide; 30 AA.
XX
XX  AAR98956;
AC
XX
XX  15-JAN-1997 (first entry)
DT
XX
XX  Target peptide (GLP1(7-36)) used in fusion protein construct.
DE
XX
XX  Fusion protein construct; isolation; purification;
KW  growth hormone releasing factor; glucagon-like peptide 1;
KW  parathyroid hormone; inclusion body; carbonic anhydrase.
XX
XX  Synthetic.
OS
XX
XX  WO9617942-A1.
PN
XX
XX  13-JUN-1996.
PD
XX
XX  07-DEC-1995; 95WC-US15800.
PF
XX
XX  07-DEC-1994; 94NS-0150530.
PR
XX
XX  (BION-) BIONEERASRA INC.
PA
XX
XX  De LA MOTTE RS, Henrikson DH, Holmquist B, Manning SD;
PI  Partridge HE, Stout JS, Wagner FW;
XX
XX  WPI: 1996-287186/29.
DR
XX
XX  Isolation and purification of peptide(s) from fusion protein constructs
PT  - which include a carbonic anhydrase and a variable fused
XX  polypeptide
XX
XX  Claim 58; Page 50; 67pp; English.
PS
XX
XX  A new method for the isolation and/or purification of a recombinant
CC  peptide employs a fusion protein construct (FPC) comprising a
CC  carbonic anhydrase and a variable fused polypeptide containing a
CC  target peptide. The method comprises precipitating either the FPC or
CC  a fragment of the FPC including the carbonic anhydrase. An
CC  alternative method of producing the peptide comprises expressing the
CC  FPC as part of an inclusion body. The target peptides of the FPC are
CC  derived from growth hormone releasing factor (GRF), glucagon-like
CC  peptide 1 (GLP1) or parathyroid hormone (PTH). This sequence
CC  corresponds to amino acids 7-36 of GLP1.
XX
XX  Sequence 30 AA:
SQ
XX
XX  Query Match          92.4%; Score 134; DB 17; Length 30;
XX  Best Local Similarity 93.1%; Pred. No. 1,7e-13;
XX  Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

UY  1 AEGFTSDVSSYLEGQAAKEFIAWEVKGR 29
    |||||
DB  2 AEGFTSDVSSYLEGQAAKEFIAWEVKGR 30

RESULT 11

```


XX N-terminally truncated GLP-1 analog #16.
 DE Truncation, glucagon-like insulinotropic peptide; GLP, proglucagon;
 XX chemical synthesis; proteolysis; fragmentation; recombinant DNA; glucose;
 KW stimulation; secretion; serum uptake; diabetes mellitus; hyperglycaemia.
 XX Synthetic.
 OS
 XX Hb99686-A2.
 XX
 PD 06-MAR-1996.
 XX
 PF 25-AUG-1995; 95EP-0305963.
 XX
 PR 30-AUG-1994; 94US-0297731.
 XX
 PA (ELIL) LILLY & CO ELI.
 XX
 PI Johnson WT, Yakubu-madus FE;
 XX WPI: 1996-130713/14.
 DR
 XX
 PT New C-terminal fragments of glucagon-like peptide GLP-1 - useful as
 PT hypoglycaemic agents for treating diabetes
 XX
 PS Claim 16; Page 22; 23pp; English.
 XX
 CC Peptides AAG9045-60 represent examples of novel N-terminally truncated
 CC glucagon-like insulinotropic peptide (GLP)-1 peptides. The peptides can
 CC be synthesised chemically, derived by proteolytic fragmentation of
 CC proglucagon or produced by recombinant DNA technology. This peptide
 CC represents residues 8-37 of the full length GLP-1. The novel peptides
 CC lack the insulinotropic activity of GLP-1 i.e. they do not stimulate
 CC secretion of insulin, whilst retaining an activity allowing increased
 CC serum uptake of glucose. The peptides are thus useful for treating
 CC diabetes mellitus or hyperglycaemia.
 CC
 SQ Sequence 30 AA;
 XX
 XX
 Query Match 92.4%; Score 134; DI 17; Length 30;
 Best Local Similarity 93.1%; Pred. No. 1.7e-13;
 Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0.
 QY 1 AAGTFTSDVSSYLFGQAAKEFIAMLVKGR 29
 DB 1 AAGTFTSDVSSYLFGQAAKEFIAMLVKGR 29
 XX
 RESULT 14
 AAM16383
 ID AAM16383 standard; peptide; 30 AA.
 AC AAM16383;
 XX
 DT 01-OCT-1997 (first entry)
 XX
 DE Glucagon-like peptide-1(7-36).
 XX
 KW Glucagon-like peptide-1(7-36); GLP-1 (7-36); Insulin secretagogue;
 KW Insulinotropic hormone type II diabetes mellitus therapy
 XX
 OS Rattus sp.
 XX
 PN US5614492-A.
 XX
 PD 25-MAR-1997.
 XX
 PF 05-MAY-1986; 86US-0859928.
 XX
 PR 05-SEP-1991; 91US-0756215.
 PR 05-MAY-1986; 86US-0859928.
 PR 26-JAN-1988; 88US-0148517.

PR 01-JUN-1990; 90US-0532111.
 PR 23-NOV-1994; 94US-0156800.
 XX
 PA (GENO) GEN HOSPIAL CORP.
 XX
 PI Habener JF;
 XX WPI: 1997-201513/18.
 DR
 XX
 PT Glucagon-like peptide-1 fragment comprising amino acids 7-36 -
 PT useful for enhancing insulin production in pancreatic islet cells,
 PT especially for treating type II diabetes mellitus
 XX
 PS Claim 1; Column 34; 37pp; English.
 XX
 CC Glucagon-like peptide-1 (7-36) (AAM16383) comprises amino acid
 CC residues 7-36 of rat glucagon-like peptide-1 (GLP-1) (see also
 CC AAM16384). It is naturally produced from GLP-1 in the intestine
 CC and to a lesser extent in the pancreas. GLP-1(7-36) has
 CC insulinotropic activity, being able to stimulate the synthesis
 CC and secretion of insulin from the pancreas. It can be produced
 CC by chemical synthesis or by proteolytic digestion of GLP-1 for use
 CC as an insulin secretagogue or for the treatment of type II diabetes
 CC mellitus.
 CC
 SQ Sequence 30 AA;
 XX
 XX
 Query Match 92.4%; Score 134; DI 18; Length 30;
 Best Local Similarity 93.1%; Pred. No. 1.7e-13;
 Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
 QY 1 AAGTFTSDVSSYLFGQAAKEFIAMLVKGR 29
 DB 2 AAGTFTSDVSSYLFGQAAKEFIAMLVKGR 30
 XX
 RESULT 15
 AAM63288
 ID AAM63288 standard; peptide; 30 AA.
 AC AAM63288;
 XX
 DT 23-SEP-1998 (first entry)
 XX
 DE Glucagon-like peptide-1 (7-36) amide.
 XX
 KW GLP-1; glucagon-like peptide; obesity.
 XX
 OS Homo sapiens.
 XX
 FH Key location/Qualifiers
 FT Modified-site 30
 FT Note: "C-terminal amide"
 XX
 PN WO9819698-A1.
 XX
 PD 14-MAY-1998.
 XX
 PF 04-NOV-1997; 97WO-US20114.
 XX
 PR 30-MAY-1997; 97US-0661405
 PR 05-NOV-1996; 96US-0030213
 XX
 PA (ELIL) LILLY & CO ELI.
 XX
 PI Dimarchi RD, Etendie S;
 XX WPI: 1998-286595/25.
 DR
 XX
 PT Use of glucagon-like peptide-1 and analogues and derivatives - to
 PT reduce body weight, e.g., in treatment of obesity
 XX
 PS Claim 12; Page 18; 42pp; English.

GenCore version 5.1.4.P5.4578
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OM protein - protein search, using sw model

Run on: May 13, 2003, 09:25:13, Search time 19.322 seconds
(without alignments)

45.683 Million cell updates/sec

Title: US-09-868-974-3

Perfect score: 145

Sequence: 1 ACGFTSDVSSYLMOQAXEFLAMFKGRX 30

Scoring table:

EV:SUM62
Gapop 10 0, Gapext 0 5

Searched: 262574 seqs, 29422922 residues

Total number of hits satisfying chosen parameters: 262574

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Database: Issued_Patents_AA:*

1: /cgn2_6/ptodata/1/1aa/5A.COMB.pep.*
2: /cgn2_6/ptodata/1/1aa/5B.COMB.pep.*
3: /cgn2_6/ptodata/1/1aa/5A.COMB.pep.*
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5: /cgn2_6/ptodata/1/1aa/PTCIS.COMB.pep.*
6: /cgn2_6/ptodata/1/1aa/Na-KAT1est.pep.*

pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	134	92.4	29	1 US-08-324-960-1	Sequence 1, Appl
2	134	92.4	29	1 US-08-327-731-11	Sequence 11, Appl
3	134	92.4	29	5 PCT-US95-10793-11	Sequence 11, Appl
4	134	92.4	30	1 US-08-066-480-6	Sequence 6, Appl
5	134	92.4	30	1 US-08-095-162-1	Sequence 1, Appl
6	134	92.4	30	1 US-08-297-731-12	Sequence 12, Appl
7	134	92.4	30	1 US-08-470-320A-1	Sequence 1, Appl
8	134	92.4	30	2 US-08-927-327-1	Sequence 1, Appl
9	134	92.4	30	2 US-08-967-374-1	Sequence 1, Appl
10	134	92.4	30	4 US-09-348-136-1	Sequence 1, Appl
11	134	92.4	30	4 US-08-961-405A-4	Sequence 4, Appl
12	134	92.4	30	4 US-08-961-405A-5	Sequence 4, Appl
13	134	92.4	30	4 US-08-915-918A-4	Sequence 4, Appl
14	134	92.4	30	4 US-08-915-918A-5	Sequence 5, Appl
15	134	92.4	30	4 US-09-302-356-4	Sequence 4, Appl
16	134	92.4	30	4 US-08-472-349-3	Sequence 4, Appl
17	134	92.4	30	4 US-09-333-415-4	Sequence 4, Appl
18	134	92.4	30	4 US-09-585-181A-3	Sequence 4, Appl
19	134	92.4	30	4 US-09-585-181A-4	Sequence 4, Appl
20	134	92.4	30	4 US-09-209-7990-7	Sequence 7, Appl
21	134	92.4	30	4 US-09-209-7990-10	Sequence 10, Appl
22	134	92.4	30	4 US-09-975-905-1	Sequence 1, Appl
23	134	92.4	30	4 US-08-505-901-1	Sequence 1, Appl
24	134	92.4	30	4 US-09-573-804-1	Sequence 1, Appl
25	134	92.4	30	4 US-09-383-016-4	Sequence 4, Appl
26	134	92.4	30	4 US-09-312-663-4	Sequence 4, Appl
27	134	92.4	30	5 PCT-US95-10793-12	Sequence 12, Appl

28	134	92.4	30	5 PCT-US95-15820-27	Sequence 27, Appl
29	134	92.4	31	1 US-09-325-951-1	Sequence 1, Appl
30	134	92.4	31	1 US-08-095-162-3	Sequence 3, Appl
31	134	92.4	31	1 US-08-295-913A-1	Sequence 1, Appl
32	134	92.4	31	1 US-08-470-320A-2	Sequence 3, Appl
33	134	92.4	31	2 US-08-807-263-3	Sequence 3, Appl
34	134	92.4	31	3 US-08-967-374-3	Sequence 3, Appl
35	134	92.4	31	4 US-08-961-405A-1	Sequence 1, Appl
36	134	92.4	31	4 US-09-258-750-1	Sequence 1, Appl
37	134	92.4	31	4 US-08-915-918A-1	Sequence 1, Appl
38	134	92.4	31	4 US-09-302-356-4	Sequence 3, Appl
39	134	92.4	31	4 US-08-472-349-2	Sequence 2, Appl
40	134	92.4	31	4 US-09-623-618B-2	Sequence 2, Appl
41	134	92.4	31	4 US-09-623-618B-17	Sequence 17, Appl
42	134	92.4	31	4 US-09-623-618B-27	Sequence 27, Appl
43	134	92.4	31	4 US-08-927-327-1	Sequence 1, Appl
44	134	92.4	31	4 US-09-333-415-3	Sequence 3, Appl
45	134	92.4	31	4 US-09-209-7990-1	Sequence 1, Appl

ALIGNMENTS

RESULT 1
US-08-324-960-1
Sequence 1, Application US/08324960
Patent No. 5512549
GENERAL INFORMATION:
APPLICANT: Chen, Victor J.
APPLICANT: Dimatchi, Richard D.
APPLICANT: Smiley, David L.
APPLICANT: Stucky, Russell D.
APPLICANT: Kriauciunas, Aldas V.
TITLE OF INVENTION: Glucagon Like Insulinotropic Peptide
TITLE OF INVENTION: Analogs, Compositions, and Methods of Use
NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
ADDRESSEE: Eli Lilly and Company
STREET: Lilly Corporate Center, Patent Division
CITY: Indianapolis
STATE: Indiana
COUNTRY: United States
ZIP: 46285
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/324,960
FILING DATE: October 18, 1994
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Mueck, Ronald S.
REGISTRATION NUMBER: 35,262
REFERENCE/DOCKET NUMBER: X-9079
TELEPHONE INFORMATION:
TELEPHONE: 317-276-1664
TELEFAX: 317-277-1917
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 29 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
NAME/KEY: protein
LOCATION: C1
OTHER INFORMATION: /label- N-terminal modifications
OTHER INFORMATION: /note - "organic moiety"
FEATURE:
NAME/KEY: protein

LOCATION: 19
OTHER INFORMATION: /label- substitution
OTHER INFORMATION: /note- "Xaa-Lysine or Arginine"
FEATURE:
NAME/KEY: Protein
LOCATION: 27
OTHER INFORMATION: /label- acylation
OTHER INFORMATION: /note- "Epsilon amino group is C6-C10 acylated"
FEATURE:
NAME/KEY: Protein
LOCATION: 29
OTHER INFORMATION: /label- C-terminus
OTHER INFORMATION: /note- "C-terminus is OH or glycine-OH"
US-08-124-960-1

Query Match 92.4%: Score 134; DB 1; Length 29;
Best Local Similarity 96.6%: Pred. No. 7.7e-14;
Matches 28; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFLAMLVKGR 29
DB 1 AEGFTSDVSSYLEGQAAKEFLAMLVKGR 29

RESULT 2
US-08-297-741-11
Sequence 11, Application US/08297741
Patent No. 5574008
GENERAL INFORMATION:
APPLICANT: Johnson, William T.
TITLE OF INVENTION: BIOLOGICALLY ACTIVE FRAGMENTS OF
TITLE OF INVENTION: GLUCAGON-LIKE INSULINOTROPIC PEPTIDE
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
ADDRESSEE: Eli Lilly and Company/BSM
STREET: Lilly Corporate Center
CITY: Indianapolis
STATE: IN
COUNTRY: USA
ZIP: 46285
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
OPERATING SYSTEM: IBM PC compatible
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/297 741
FILING DATE:
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: MacLack, Ronald S.
REGISTRATION NUMBER: 35,262
REFERENCE/DOCKET NUMBER: X9630
TELEPHONE: 317-276-1664
TELEFAX: 317-277-1917
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 29 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
NAME/KEY: Modified-site
LOCATION: 28..29
OTHER INFORMATION: /note- "C-terminal amide"
US-08-297-741-11

Query Match 92.4%: Score 134; DB 1; Length 29;
Best Local Similarity 94.1%: Pred. No. 7.7e-14;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFLAMLVKGR 29
DB 1 AEGFTSDVSSYLEGQAAKEFLAMLVKGR 29

RESULT 3
PCT-US95-10793-11
Sequence 11, Application EC/TUS9510793
GENERAL INFORMATION:
APPLICANT: Johnson, William T.
TITLE OF INVENTION: BIOLOGICALLY ACTIVE FRAGMENTS OF
TITLE OF INVENTION: GLUCAGON-LIKE INSULINOTROPIC PEPTIDE
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
ADDRESSEE: Eli Lilly and Company/BSM
STREET: Lilly Corporate Center
CITY: Indianapolis
STATE: IN
COUNTRY: USA
ZIP: 46285
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
OPERATING SYSTEM: IBM PC compatible
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/10793
FILING DATE:
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: MacLack, Ronald S.
REGISTRATION NUMBER: 35,262
REFERENCE/DOCKET NUMBER: X9630
TELEPHONE: 317-276-1664
TELEFAX: 317-277-1917
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 29 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
NAME/KEY: Modified-site
LOCATION: 28..29
OTHER INFORMATION: /note- "C-terminal amide"
PCT-US95-10793-11

Query Match 92.4%: Score 134; DB 5; Length 29;
Best Local Similarity 93.1%: Pred. No. 7.7e-14;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFLAMLVKGR 29
DB 1 AEGFTSDVSSYLEGQAAKEFLAMLVKGR 29

RESULT 4
US-08-066-480-6
Sequence 6, Application US/08066480
Patent No. 5424286
GENERAL INFORMATION:
APPLICANT: Eng, John
TITLE OF INVENTION: Pharmaceutical Compositions And Use of
TITLE OF INVENTION: Exendin-3 and Exendin-4 for Treatment of Diabetes Mellitus
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: Allogretil & Wilcoff, Ltd.
STREET: 10 S. Wacker Drive
CITY: Chicago

STATE: Illinois
COUNTRY: USA
ZIP: 60606
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/066,480
FILING DATE: 24-MAR-1993
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: McDonnell, John J.
REGISTRATION NUMBER: 26,949
REFERENCE/DOCKET NUMBER: 93,084
TELEPHONE: 312-715-1000
TELEFAX: 312-715-1234
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
NAME/KEY: Peptide
LOCATION: 1-30
OTHER INFORMATION: /label-GLP-1-7-36
US-08-066-480-6
OTHER INFORMATION: /note-GLP-1(7-36) fragment
Query Match 92.4%, Score 134, DB 1, Length 30,
Best Local Similarity 93.1%, Pred. No. 8e-14,
Matches 27: Conservative 0, Mismatches 2, Indels 0, Gaps 0,
QY 1 AEGFTSDVSSYLEGQAAKEFIAMLYKGR 29
DB 2 AEGFTSDVSSYLEGQAAKEFIAMLYKGR 30
RESULT 5
US-08-095-162-1
Sequence 1, Application US/08/95162
Patent No. 5512459
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Parfiske, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
TITLE OF INVENTION: Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 5512459 West Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/095,162
FILING DATE: 20-JUL-1993
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Nelson, Albin J.

REGISTRATION NUMBER: 28,659
REFERENCE/DOCKET NUMBER: 8648.32 US01
TELEPHONE: 612-442-5300
TELEFAX: 612-342-9081
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
NAME/KEY: Peptide
LOCATION: 1-30
OTHER INFORMATION: /label-GLP-1(7-36)-NH2 (Glucagon-like peptide)
US-08-095-162-1
Query Match 92.4%, Score 134, DB 1, Length 30,
Best Local Similarity 93.1%, Pred. No. 8e-14,
Matches 27: Conservative 0, Mismatches 2, Indels 0, Gaps 0,
QY 1 AEGFTSDVSSYLEGQAAKEFIAMLYKGR 29
DB 2 AEGFTSDVSSYLEGQAAKEFIAMLYKGR 30
RESULT 6
US-08-297-731-12
Sequence 12, Application US/08/297731
Patent No. 5574008
GENERAL INFORMATION:
APPLICANT: Johnson, William T.
APPLICANT: Yakubu Madus, Fatima E.
TITLE OF INVENTION: BIOLOGICALLY ACTIVE FRAGMENTS OF
TITLE OF INVENTION: GLUCAGON-LIKE INSULINOTROPIC PEPTIDE
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
ADDRESSEE: Lilly and Company/KSM
STREET: Lilly Corporate Center
CITY: Indianapolis
STATE: IN
COUNTRY: USA
ZIP: 46285
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/297,731
FILING DATE:
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Magick, Ronald S.
REGISTRATION NUMBER: 35,262
REFERENCE/DOCKET NUMBER: X9630
TELEPHONE: 317-276-1664
TELEFAX: 317-277-1917
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-297-731-12
Query Match 92.4%, Score 134, DB 1, Length 30,
Best Local Similarity 93.1%, Pred. No. 8e-14,
Matches 27: Conservative 0, Mismatches 2, Indels 0, Gaps 0,
QY 1 AEGFTSDVSSYLEGQAAKEFIAMLYKGR 29
DB 1 AEGFTSDVSSYLEGQAAKEFIAMLYKGR 29

RESULT 7
US-08-470-220A-1
Sequence 1, Application US/08470220A
Patent No. 5707826
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
TITLE OF INVENTION: Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 4100 No. 5707826west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/470,220A
FILING DATE: 06-JUN-1995
CLASSIFICATION: 435
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: US 08/095,162
FILING DATE: 20-JUL-1993
ATTORNEY/AGENT INFORMATION:
NAME: Nelson, Aldin J.
REGISTRATION NUMBER: 28,659
REFERENCE/DOCKET NUMBER: 8648.32-US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 40 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GLP1 7-36-NH2 (Glucagon-like Peptide)
US-08-470-220A-1
Query Match 92.4% Score 134; DB 1; length 30;
Host local Similarity 93.1% Pred. No. 86-14;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
OY 1 AEGFTSDVSSYLEGQAAKEFLAMLVKGR 29
DB 2 AEGFTSDVSSYLEGQAAKEFLAMLVKGR 30
RESULT 8
US-08-927-227-1
Sequence 1, Application US/08927227A
GENERAL INFORMATION:
APPLICANT: Galloway, James A.
APPLICANT: Hollmann, James A.
TITLE OF INVENTION: GLUCAGON-LIKE INSULINOTROPIC PEPTIDE ANALOGS,
TITLE OF INVENTION: COMPOSITIONS AND METHODS
FILE REFERENCE: X 9332B
CURRENT APPLICATION NUMBER: US/08/927,227A
CURRENT FILING DATE: 1997-09-10
NUMBER OF SEQ ID NOS: 1

SOFTWARE: Patent Ver. 2.0
SEQ ID NO 1
LENGTH: 30
TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
OTHER INFORMATION: The arginine residue at position 30 is modified so
OTHER INFORMATION: as to replace the terminal carboxyl group with an
OTHER INFORMATION: amine.
US-08-927-227-1

Query Match 92.4% Score 134; DB 2; length 30;
Host local Similarity 93.1% Pred. No. 86-14;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

OY 1 AEGFTSDVSSYLEGQAAKEFLAMLVKGR 29
DB 2 AEGFTSDVSSYLEGQAAKEFLAMLVKGR 30

RESULT 9
US-08-967-374-1
Sequence 1, Application US/08967374

Patent No. 6037143
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
TITLE OF INVENTION: Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 4100 No. 6037143west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/967,374
FILING DATE:
CLASSIFICATION:
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: 08/520,485
FILING DATE: 29-AUG-1995
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648 32-US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081

INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GLP1 7-36-NH2 (Glucagon-like Peptide)
US-08-967-374-1

Query Match 92.4% Score 134; DB 3; length 30;
Host local Similarity 93.1% Pred. No. 86-14;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

OY 1 ACCTFTSDVSSYLLGQAAKXEFIAWVKGR 29
 DB 2 ACCTFTSDVSSYLLGQAAKXEFIAWVKGR 30

RESULT 10
 US-09-348-136-1
 : Sequence 1, Application US/09348136
 : Patent No. 6133235
 : GENERAL INFORMATION:
 : APPLICANT: Galloway, James A.
 : APPLICANT: Hoffmann, James A.
 : TITLE OF INVENTION: GLUCAGON-LIKE INSULINOTROPIC PEPTIDE ANALOGS,
 : FILE REFERENCE: X-9332B
 : CURRENT APPLICATION NUMBER: US/09/348,136
 : PRIOR FILING DATE: 1997-07-06
 : PRIOR FILING DATE: 1997-09-10
 : NUMBER OF SEQ ID NOS: 1
 : SOFTWARE: PatentIn Ver. 2.0
 : SEQ ID NO 1
 : LENGTH: 30
 : TYPE: PPT
 : ORGANISM: Homo sapiens
 : FEATURE:
 : OTHER INFORMATION: The arginine residue at position 30 is modified so
 : OTHER INFORMATION: as to replace the terminal carboxyl group with an
 : OTHER INFORMATION: amine.
 US-09-348-136-1

Query Match 92.4%, Score 134, DB 4, Length 30,
 Best Local Similarity 93.1%, Pred. No. 8e-14:
 Matches 27, Conservative 0, Mismatches 2, Indels 0, Gaps 0;

OY 1 ACCTFTSDVSSYLLGQAAKXEFIAWVKGR 29
 DB 2 ACCTFTSDVSSYLLGQAAKXEFIAWVKGR 30

RESULT 11
 US-08-961-405A-4
 : Sequence 4, Application US/08961405A
 : Patent No. 6191102
 : GENERAL INFORMATION:
 : APPLICANT: Dimarchi, Richard D.
 : APPLICANT: Etendic, Soud
 : TITLE OF INVENTION: USE OF GIP-1 ANALOGS AND DERIVATIVES
 : TITLE OF INVENTION: ADMINISTERED PERIPHERALLY IN REGULATION OF OBESITY
 : NUMBER OF SEQUENCES: 9
 : CORRESPONDENCE ADDRESS:
 : ADDRESSEE: BARNES & THORNBURG
 : STREET: 200 W. Madison, Suite 2601
 : CITY: Chicago
 : STATE: Illinois
 : COUNTRY: USA
 : ZIP: 60606
 : COMPUTER READABLE FORM:
 : MEDIUM TYPE: Floppy disk
 : COMPUTER: IBM PC compatible
 : OPERATING SYSTEM: PC-DOS/MS-DOS
 : SOFTWARE: PatentIn Release #1.0, Version #1.30
 : CURRENT APPLICATION DATA:
 : APPLICATION NUMBER: US/08/961,405A
 : FILING DATE: 30-OCT-1997
 : PRIOR APPLICATION DATA:
 : APPLICATION NUMBER: US 60/030,213
 : FILING DATE: 05-NOV-1996
 : ATTORNEY/AGENT INFORMATION:
 : NAME: Martin, Alice O.
 : REGISTRATION NUMBER: 35,601
 : REFERENCE/DOCKET NUMBER: 3051/90264
 : TELECOMMUNICATION INFORMATION:

TELEPHONE: 312-357-1313
 TELEFAX: 312-759-5646
 INFORMATION FOR SEQ ID NO: 4:
 SEQUENCE CHARACTERISTICS:
 LENGTH: 30 amino acids
 TYPE: amino acid
 STRANDEDNESS:
 TOPOLOGY: linear
 MOLECULE TYPE: peptide
 FEATURE:
 NAME/KEY: Modified-site
 LOCATION: 19
 OTHER INFORMATION: /product= "lys or Arg"

NAME/KEY: Modified-site
 LOCATION: 30
 OTHER INFORMATION: /product= "in the peptide's largest
 OTHER INFORMATION: embedded, position 30 may be a Gly; the peptide may also
 OTHER INFORMATION: encompass a molecule minus the Gly at position 30"
 US-08-961-405A-4

Query Match 92.4%, Score 134, DB 4, Length 30,
 Best Local Similarity 96.7%, Pred. No. 8e-14:
 Matches 28, Conservative 0, Mismatches 1, Indels 0, Gaps 0;

OY 1 ACCTFTSDVSSYLLGQAAKXEFIAWVKGR 29
 DB 1 ACCTFTSDVSSYLLGQAAKXEFIAWVKGR 29

RESULT 12
 US-08-961-405A-5
 : Sequence 5, Application US/08961405A
 : Patent No. 6191102
 : GENERAL INFORMATION:
 : APPLICANT: Dimarchi, Richard D.
 : APPLICANT: Etendic, Soud
 : TITLE OF INVENTION: USE OF GIP-1 ANALOGS AND DERIVATIVES
 : TITLE OF INVENTION: ADMINISTERED PERIPHERALLY IN REGULATION OF OBESITY
 : NUMBER OF SEQUENCES: 9
 : CORRESPONDENCE ADDRESS:
 : ADDRESSEE: BARNES & THORNBURG
 : STREET: 200 W. Madison, Suite 2601
 : CITY: Chicago
 : STATE: Illinois
 : COUNTRY: USA
 : ZIP: 60606
 : COMPUTER READABLE FORM:
 : MEDIUM TYPE: Floppy disk
 : COMPUTER: IBM PC compatible
 : OPERATING SYSTEM: PC-DOS/MS-DOS
 : SOFTWARE: PatentIn Release #1.0, Version #1.30
 : CURRENT APPLICATION DATA:
 : APPLICATION NUMBER: US/08/961,405A
 : FILING DATE: 30-OCT-1997
 : PRIOR APPLICATION DATA:
 : APPLICATION NUMBER: US 60/030,213
 : FILING DATE: 05-NOV-1996
 : ATTORNEY/AGENT INFORMATION:
 : NAME: Martin, Alice O.
 : REGISTRATION NUMBER: 35,601
 : REFERENCE/DOCKET NUMBER: 3051/90264
 : TELECOMMUNICATION INFORMATION:
 : TELEPHONE: 312-357-1313
 : TELEFAX: 312-759-5646
 : INFORMATION FOR SEQ ID NO: 5:
 : SEQUENCE CHARACTERISTICS:
 : LENGTH: 30 amino acids
 : TYPE: amino acid
 : STRANDEDNESS:
 : TOPOLOGY: linear
 : MOLECULE TYPE: peptide
 US-08-961-405A-5

Query Match 92.4%: Score 134; DB 4; Length 30;
Best Local Similarity 93.1%: Pred No. 86-14;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGOAAKEFIAMLVKGR 29
|||||
DB 2 AEGFTSDVSSYLEGOAAKEFIAMLVKGR 30

RESULT 14
US-08-915-918A-4
Sequence 4, Application US/08915918A
Patent No. 6277819
GENERAL INFORMATION:
APPLICANT: ETEODIC, SUAD
TITLE OF INVENTION: USE OF GLP-1 OR ANALOGS IN TREATMENT OF
MYOCARDIAL INFARCTION
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: BRINKS, HOFER, GILSON & LIONE
STREET: NRG Tower, Suite 3600, 455 N. Cityfront
CITY: Chicago
STATE: Illinois
COUNTRY: USA
ZIP: 60611-5599
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/915,918A
FILING DATE: 21-AUG-1997
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Martin, Alice O.
REGISTRATION NUMBER: 35,601
REFERENCE/DOCKET NUMBER: 8792/28
TELECOMMUNICATION INFORMATION:
TELEPHONE: 312-321-4200
TELEFAX: 312-321-4299
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-915-918A-4

Query Match 92.4%: Score 134; DB 4; Length 30;
Best Local Similarity 96.6%: Pred No. 86-14;
Matches 28; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGOAAKEFIAMLVKGR 29
|||||
DB 1 AEGFTSDVSSYLEGOAAKEFIAMLVKGR 29

RESULT 14
US-08-915-918A-5
Sequence 5, Application US/08915918A
Patent No. 6277819
GENERAL INFORMATION:
APPLICANT: ETEODIC, SUAD
TITLE OF INVENTION: USE OF GLP-1 OR ANALOGS IN TREATMENT OF
MYOCARDIAL INFARCTION
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: BRINKS, HOFER, GILSON & LIONE
STREET: NRG Tower, Suite 3600, 455 N. Cityfront

STREET: Plaza Drive
CITY: Chicago
STATE: Illinois
COUNTRY: USA
ZIP: 60611-5599
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/915,918A
FILING DATE: 21-AUG-1997
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Martin, Alice O.
REGISTRATION NUMBER: 35,601
REFERENCE/DOCKET NUMBER: 8792/28
TELECOMMUNICATION INFORMATION:
TELEPHONE: 312-321-4200
TELEFAX: 312-321-4299
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-915-918A-5

Query Match 92.4%: Score 134; DB 4; Length 30;
Best Local Similarity 93.1%: Pred No. 86-14;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGOAAKEFIAMLVKGR 29
|||||
DB 2 AEGFTSDVSSYLEGOAAKEFIAMLVKGR 30

RESULT 15
US-09-302-596-4
Sequence 4, Application US/09302596
Patent No. 6284725
GENERAL INFORMATION:
APPLICANT: Coolidge, Thomas R.
TITLE OF INVENTION: Metabolic Intervention with GLP-1 to Improve the Function of
Ischemic and Reperused Tissue
FILE REFERENCE: P03660051
CURRENT APPLICATION NUMBER: US/09/302,596
CURRENT FILING DATE: 1999-04-30
PRIOR APPLICATION NUMBER: 60/103,498
PRIOR FILING DATE: 1998-10-08
NUMBER OF SEQ ID NOS: 13
SOFTWARE: Patent in Ver. 2.0
SEQ ID NO 4
LENGTH: 30
TYPE: PPT
ORGANISM: mammalian
US-09-302-596-4

Query Match 92.4%: Score 134; DB 4; Length 30;
Best Local Similarity 93.1%: Pred No. 86-14;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGOAAKEFIAMLVKGR 29
|||||
DB 2 AEGFTSDVSSYLEGOAAKEFIAMLVKGR 30

Search completed: May 13, 2003, 09:34:10
Job time: 19.322 secs

GenCore version 5.1.4.P5.4578
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OM protein - protein search, using sw model

Run on: May 13, 2003, 09:27:47, Search time: 15:24:43 Seconds
(without alignments)
180,984 Million cell updates/sec

Title:

US-09-868-974-3

Perfect score:

145

Sequence: 1 AEGFTSDVSSYLLPQAAKEFIAMVKKR 30

Scoring table:

BLOSUM62

Gap: 10.0, Gapext: 0.5

Searched:

349150 seqs, 92025710 residues

Total number of hits satisfying chosen parameters:

349150

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing:

Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database: Published_Applications_AA.*
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13: /cgn2_6/ptodata/2/pubpaa/US06_NEW_P08_PEP.*
14: /cgn2_6/ptodata/2/pubpaa/US06_P08COMB_PEP.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	134	92.4	33	9	US-10-125-255-1
2	134	92.4	30	9	US-09-834-229A-4
3	134	92.4	30	9	US-09-834-229A-5
4	134	92.4	30	9	US-09-997-792-7
5	134	92.4	30	9	US-09-997-792-10
6	134	92.4	30	9	US-10-091-258-1
7	134	92.4	30	10	US-09-851-738-4
8	134	92.4	30	10	US-09-805-507-4
9	134	92.4	30	10	US-09-859-804-4
10	134	92.4	30	10	US-09-982-928-4
11	134	92.4	30	10	US-09-953-021B-4
12	134	92.4	30	12	US-10-072-540A-3
13	134	92.4	30	12	US-10-072-540A-4
14	134	92.4	31	9	US-09-834-229A-1
15	134	92.4	31	9	US-09-997-792-1
16	134	92.4	31	9	US-09-997-792-4
17	134	92.4	31	9	US-10-093-958-19
18	134	92.4	31	9	US-10-109-657-1
19	134	92.4	31	9	US-10-109-657-36

20	134	92.4	31	9	US-10-125-255-1
21	134	92.4	31	9	US-10-091-258-3
22	134	92.4	31	10	US-09-859-804-3
23	134	92.4	31	10	US-09-859-804-3
24	134	92.4	31	10	US-09-859-804-3
25	134	92.4	31	10	US-09-859-804-3
26	134	92.4	31	10	US-09-859-804-3
27	134	92.4	31	10	US-09-859-804-3
28	134	92.4	31	10	US-09-859-804-3
29	134	92.4	31	10	US-09-859-804-3
30	134	92.4	31	10	US-09-859-804-3
31	134	92.4	31	10	US-09-859-804-3
32	134	92.4	31	10	US-09-859-804-3
33	134	92.4	31	12	US-10-072-540A-1
34	134	92.4	35	9	US-09-943-084-1
35	134	92.4	36	9	US-10-091-258-2
36	134	92.4	36	10	US-09-859-804-2
37	134	92.4	36	10	US-09-859-804-2
38	134	92.4	36	10	US-09-859-804-2
39	134	92.4	36	10	US-09-859-804-2
40	134	92.4	36	10	US-09-859-804-2
41	134	92.4	37	9	US-10-091-258-1
42	134	92.4	37	10	US-09-859-804-2
43	134	92.4	37	10	US-09-859-804-2
44	134	92.4	37	10	US-09-859-804-2
45	134	92.4	37	10	US-09-859-804-2

ALIGNMENTS

RESULT 1
US-10-125-255-1
Sequence 1, Application US/10125255
Patent No. US20020167342A1
GENERAL INFORMATION:
APPLICANT: Hoffmann, John A
TITLE OF INVENTION: A Calcium-Like Ion Channel for P-Dephospho, Catecholamines and Melanin
FILE REFERENCE: X-9333E
CURRENT APPLICATION NUMBER: US/10/125-255
CURRENT FILING DATE: 2002-04-17
PRIORITY APPLICATION NUMBER: 09/573,809
PRIORITY FILING DATE: 2000-05-18
NUMBER OF SEQ ID NOS: 1
SOFTWARE: Patent version 3.1
SEQ ID NO 1
LENGTH: 30
TYPE: PRT
ORGANISM: Homo sapiens
FEATURES:
NAME/KEY: MOD_RES
LOCATION: (30)..(30)
OTHER INFORMATION: The arginine residue at position 30 is modified so as to form a terminal carboxyl group with an amine.
US-10-125-255-1

Query Match 92.4% Score 134, DB 3, Length 30,
Best Local Similarity 93.1% Pred. No. 1.4e-13;
Matches 27, Conservative 0, Mismatches 2, Indels 0, Gaps 0;

QY 1 AEGFTSDVSSYLLPQAAKEFIAMVKKR 29

EB 2 AEGFTSDVSSYLLPQAAKEFIAMVKKR 30

RESULT 2
US-09-834-229A-4
Sequence 4, Application US/09834229A
Publication No. US2003022623A1

GENERAL INFORMATION:
APPLICANT: Eutectic, Sued
TITLE OF INVENTION: USE OF GIP-1 OR ANALOGS IN TREATMENT OF MYOCARDIAL INFARCT

FILE REFERENCE: X-10822A
CURRENT APPLICATION NUMBER: US/09/844,229A
CURRENT FILING DATE: 2001-04-12
PRIOR APPLICATION NUMBER: US 08/915,918
PRIOR FILING DATE: 1997-08-21
PRIOR APPLICATION NUMBER: US 06/024,980
PRIOR FILING DATE: 1996-08-30
NUMBER OF SEQ ID NOS: 6
SOFTWARE: Patent in version 3.1
SEQ ID NO 4
LENGTH: 30
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: synthetic construct
NAME/KEY: MISC_FEATURE
LOCATION: (19)..(19)
OTHER INFORMATION: Xaa at position 19 is lys or Arg;
NAME/KEY: MOD_RES
LOCATION: (30)..(30)
OTHER INFORMATION: AMIDATION
NAME/KEY: MISC_FEATURE
LOCATION: (30)..(30)
OTHER INFORMATION: Xaa at position 30 is Gly.
US-09-834-229A-4

Query Match 92.4%; Score 134; DB 9; Length 30;
Best Local Similarity 96.6%; Pred. No. 1.4e-13;
Matches 28; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Y 1 AEGFTSDVSSYILKGOAAKEFIAMLVKGR 29
|||||
Db 1 AEGFTSDVSSYILKGOAAKEFIAMLVKGR 29

RESULT 3
US-09-834-229A-5
Sequence 5, Application US/09834229A
Publication No. US2003002282A1
GENERAL INFORMATION:
APPLICANT: Eli Lilly, Inc.
TITLE OF INVENTION: USE OF GLP-1 OR ANALOGS IN TREATMENT OF MYOCARDIAL INFARCTION
FILE REFERENCE: X-10822A
CURRENT APPLICATION NUMBER: US/09/834,229A
CURRENT FILING DATE: 2001-04-12
PRIOR APPLICATION NUMBER: US 08/915,918
PRIOR FILING DATE: 1997-08-21
PRIOR APPLICATION NUMBER: US 06/024,980
PRIOR FILING DATE: 1996-08-30
NUMBER OF SEQ ID NOS: 6
SOFTWARE: Patent in version 3.1
SEQ ID NO 5
LENGTH: 30
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: synthetic construct
US-09-834-229A-5

Query Match 92.4%; Score 134; DB 9; Length 30;
Best Local Similarity 93.1%; Pred. No. 1.4e-13;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Y 1 AEGFTSDVSSYILKGOAAKEFIAMLVKGR 29
|||||
Db 2 AEGFTSDVSSYILKGOAAKEFIAMLVKGR 30

RESULT 4
US-09-997-792-7
Sequence 7, Application US/09997792
Publication No. US2003004546A1
GENERAL INFORMATION:

APPLICANT: Hoffmann, Ronald
APPLICANT: Hoffmann, James
TITLE OF INVENTION: GLUCAGON-LIKE PEPTIDE-1 CRYSTALS
FILE REFERENCE: X-10242
CURRENT APPLICATION NUMBER: US/09/997,792
CURRENT FILING DATE: 2001-11-30
NUMBER OF SEQ ID NOS: 29
SOFTWARE: Patent in version 3.0
SEQ ID NO 7
LENGTH: 30
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: synthetic construct
NAME/KEY: VARIANT
LOCATION: (19)..(19)
OTHER INFORMATION: Xaa at position 19 is lys or Arg
NAME/KEY: VARIANT
LOCATION: (30)..(30)
OTHER INFORMATION: Xaa at position 30 is Gly or is absent; and Lys at position 30
OTHER INFORMATION: y be acylate
US-09-997-792-7

Query Match 92.4%; Score 134; DB 9; Length 30;
Best Local Similarity 96.6%; Pred. No. 1.4e-13;
Matches 28; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Y 1 AEGFTSDVSSYILKGOAAKEFIAMLVKGR 29
|||||
Db 1 AEGFTSDVSSYILKGOAAKEFIAMLVKGR 29

RESULT 5
US-09-997-792-10
Sequence 10, Application US/09997792
Publication No. US2003004546A1
GENERAL INFORMATION:
APPLICANT: Hoffmann, Ronald
APPLICANT: Hoffmann, James
TITLE OF INVENTION: GLUCAGON-LIKE PEPTIDE-1 CRYSTALS
FILE REFERENCE: X-10242
CURRENT APPLICATION NUMBER: US/09/997,792
CURRENT FILING DATE: 2001-11-30
NUMBER OF SEQ ID NOS: 29
SOFTWARE: Patent in version 3.0
SEQ ID NO 10
LENGTH: 30
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: synthetic construct
US-09-997-792-10

Query Match 92.4%; Score 134; DB 9; Length 30;
Best Local Similarity 93.1%; Pred. No. 1.4e-13;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Y 1 AEGFTSDVSSYILKGOAAKEFIAMLVKGR 29
|||||
Db 2 AEGFTSDVSSYILKGOAAKEFIAMLVKGR 30

RESULT 6
US-10-091-258-4
Sequence 4, Application US/10091258
Publication No. US2003007362A1
GENERAL INFORMATION:
APPLICANT: Hathaway, David R
APPLICANT: Coolidge, Thomas R
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING PERIPHERAL VASCULAR DISEASE
FILE REFERENCE: RGN-2


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: CURRENT APPLICATION NUMBER: US/10/091,258
: CURRENT FILING DATE: 2002-03-05
: NUMBER OF SEQ ID NOS: 13
: SOFTWARE: Patent In version 3.1
: SEQ ID NO 4
: TYPE: PRT
: ORGANISM: mammalian
US-10-091-258-4

Query Match
Best local Similarity 92.4%; Score 134; DB 9; Length 30;
Matches 27, Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AECTFTSDVSSYLEGQAKKEFIAMLVKGR 29
Db 2 AECTFTSDVSSYLEGQAKKEFIAMLVKGR 30

RESULT 7
US-09-851-738-4
: Sequence 4, Application US/09851738
: Patent No. US20020055460A1
: GENERAL INFORMATION:
: APPLICANT: Coolidge, Thomas R.
: APPLICANT: Ehlers, Mario R.W.
: TITLE OF INVENTION: Metabolic Intervention with GLP-1 to Improve the Function of
: FILE REFERENCE: P03660051
: CURRENT APPLICATION NUMBER: US/09/851,738
: CURRENT FILING DATE: 2001-05-09
: PRIOR APPLICATION NUMBER: 09/302,596
: PRIOR FILING DATE: 1999-04-30
: NUMBER OF SEQ ID NOS: 13
: SOFTWARE: Patent In Ver 2.0
: SEQ ID NO 4
: LENGTH: 30
: TYPE: PRT
: ORGANISM: mammalian
US-09-851-738-4

Query Match
Best local Similarity 92.4%; Score 134; DB 10; Length 30;
Matches 27, Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AECTFTSDVSSYLEGQAKKEFIAMLVKGR 29
Db 2 AECTFTSDVSSYLEGQAKKEFIAMLVKGR 30

RESULT 8
US-09-805-507-4
: Sequence 4, Application US/09805507
: Patent No. US20020098195A1
: GENERAL INFORMATION:
: APPLICANT: COOLIDGE, THOMAS R.
: APPLICANT: EHLERS, MARIO
: TITLE OF INVENTION: TREATMENT OF ACUTE CORONARY SYNDROME WITH GLP-1
: FILE REFERENCE: 089187/0395
: CURRENT APPLICATION NUMBER: US/09/805,507
: CURRENT FILING DATE: 2001-03-14
: PRIOR APPLICATION NUMBER: 09/859,804
: PRIOR FILING DATE: 2001-05-18
: NUMBER OF SEQ ID NOS: 13
: SOFTWARE: Patent In Ver. 2.1
: SEQ ID NO 4
: LENGTH: 30
: TYPE: PRT
: ORGANISM: Unknown Organism
: FEATURE:
: OTHER INFORMATION: Description of Unknown Organism, Mammalian GLP
: OTHER INFORMATION: Peptide
US-09-805-507-4
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Query Match
Best local Similarity 92.4%; Score 134; DB 10; Length 30;
Matches 27, Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AECTFTSDVSSYLEGQAKKEFIAMLVKGR 29
Db 2 AECTFTSDVSSYLEGQAKKEFIAMLVKGR 30

RESULT 9
US-09-859-804-4
: Sequence 4, Application US/09859804
: Patent No. US20020107206A1
: GENERAL INFORMATION:
: APPLICANT: COOLIDGE, THOMAS R.
: APPLICANT: EHLERS, MARIO
: TITLE OF INVENTION: TREATMENT OF ACUTE CORONARY SYNDROME WITH GLP-1
: FILE REFERENCE: 089187/0395
: CURRENT APPLICATION NUMBER: US/09/859,804
: CURRENT FILING DATE: 2001-05-18
: PRIOR APPLICATION NUMBER: 09/859,804
: PRIOR FILING DATE: 2000-05-19
: NUMBER OF SEQ ID NOS: 13
: SOFTWARE: Patent In Ver. 2.1
: SEQ ID NO 4
: LENGTH: 30
: TYPE: PRT
: ORGANISM: Unknown Organism
: FEATURE:
: OTHER INFORMATION: Description of Unknown Organism, Mammalian GLP
: OTHER INFORMATION: Peptide
US-09-859-804-4

Query Match
Best local Similarity 92.4%; Score 134; DB 10; Length 30;
Matches 27, Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AECTFTSDVSSYLEGQAKKEFIAMLVKGR 29
Db 2 AECTFTSDVSSYLEGQAKKEFIAMLVKGR 30

RESULT 10
US-09-982-978-4
: Sequence 4, Application US/09982978
: Patent No. US20020146405A1
: GENERAL INFORMATION:
: APPLICANT: COOLIDGE, THOMAS R.
: APPLICANT: EHLERS, MARIO
: TITLE OF INVENTION: TREATMENT OF ACUTE CORONARY SYNDROME WITH GLP-1
: FILE REFERENCE: 089187/0395
: CURRENT APPLICATION NUMBER: US/09/982,978
: CURRENT FILING DATE: 2001-10-22
: PRIOR APPLICATION NUMBER: 09/859,804
: PRIOR FILING DATE: 2001-05-18
: PRIOR APPLICATION NUMBER: 09/295,239
: PRIOR FILING DATE: 2000-05-19
: NUMBER OF SEQ ID NOS: 13
: SOFTWARE: Patent In Ver. 2.1
: SEQ ID NO 4
: LENGTH: 30
: TYPE: PRT
: ORGANISM: Unknown Organism
: FEATURE:
: OTHER INFORMATION: Description of Unknown Organism, Mammalian GLP
: OTHER INFORMATION: Peptide
US-09-982-978-4

Query Match
Best local Similarity 92.4%; Score 134; DB 10; Length 30;
Matches 27, Conservative 0; Mismatches 2; Indels 0; Gaps 0;
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QY 1 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 29
|||||
Db 2 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 30

RESULT 11
US-09-953-021H-4
Sequence 4, Application US/09953021H
Patent No. US2002014/131A1
GENERAL INFORMATION:
APPLICANT: Chiles, Thomas L.
TITLE OF INVENTION: Metabolic Intervention with GIP-1 to Improve the Function of Isch
FILE REFERENCE: P03660056
CURRENT APPLICATION NUMBER: US/09/953,021B
CURRENT FILING DATE: 2001 09 11
PRIOR APPLICATION NUMBER: 09/302,596
PRIOR FILING DATE: 1999-04-30
NUMBER OF SEQ ID NOS: 13
SOFTWARE: Patent In Ver. 2.0
SEQ ID NO 4
LENGTH: 30
TYPE: PRT
ORGANISM: Homo sapiens
US-09-953-021H-4

Query Match 92.4% Score 134 DB 10 Length 30;
Best Local Similarity 93.1% Pred. No. 1.4e-13;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 29
|||||
Db 2 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 30

RESULT 12
US-10-072-540A-3
Sequence 4, Application US/10072540A
Patent No. US20020123466A1
GENERAL INFORMATION:
APPLICANT: Hoffmann, James
TITLE OF INVENTION: GIP-1 FORMULATIONS
FILE REFERENCE: X-11368A
CURRENT APPLICATION NUMBER: US/10/072,540A
CURRENT FILING DATE: 2002-02-08
PRIOR APPLICATION NUMBER: US 60/067,600
PRIOR FILING DATE: 1997-12-05
NUMBER OF SEQ ID NOS: 5
SOFTWARE: Patent In version 3.1
SEQ ID NO 4
LENGTH: 40
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURES:
OTHER INFORMATION: synthetic construct
FEATURE:
NAME/KEY: MISC_FEATURE
LOCATION: (19)..(19)
OTHER INFORMATION: Xaa at position 19 is Iys or Arg;
FEATURE:
NAME/KEY: MISC_FEATURE
LOCATION: (27)..(27)
OTHER INFORMATION: Lys at position 27 may be acylated;
FEATURE:
NAME/KEY: MISC_FEATURE
LOCATION: (30)..(30)
OTHER INFORMATION: Xaa at position 30 is Gly or absent.
US-10-072-540A-3

Query Match 92.4% Score 134 DB 12 Length 30;
Best Local Similarity 96.6% Pred. No. 1.4e-13;
Matches 28; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 29
|||||
Db 1 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 29

RESULT 13
US-10-072-540A-4
Sequence 4, Application US/10072540A
Patent No. US20020123466A1
GENERAL INFORMATION:
APPLICANT: Hoffmann, James
TITLE OF INVENTION: GIP-1 FORMULATIONS
FILE REFERENCE: X-11368A
CURRENT APPLICATION NUMBER: US/10/072,540A
CURRENT FILING DATE: 2002-02-08
PRIOR APPLICATION NUMBER: US 60/067,600
PRIOR FILING DATE: 1997-12-05
NUMBER OF SEQ ID NOS: 5
SOFTWARE: Patent In version 3.1
SEQ ID NO 4
LENGTH: 30
TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: MOD_RES
LOCATION: (30)..(30)
OTHER INFORMATION: AMIDATION
US-10-072-540A-4

Query Match 92.4% Score 134 DB 12 Length 30;
Best Local Similarity 93.1% Pred. No. 1.4e-13;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 29
|||||
Db 2 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 30

RESULT 14
US-09-834-229A-1
Sequence 1, Application US/09834229A
Publication No. US20030022823A1
GENERAL INFORMATION:
APPLICANT: Eleadic, Suad
TITLE OF INVENTION: USE OF GIP-1 OR ANALOGS IN TREATMENT OF MYOCARDIAL INFARCTION
FILE REFERENCE: X 10822A
CURRENT APPLICATION NUMBER: US/09/834,229A
CURRENT FILING DATE: 2001-04-12
PRIOR APPLICATION NUMBER: US 08/915,918
PRIOR FILING DATE: 1997-08-21
PRIOR APPLICATION NUMBER: US 06/024,980
PRIOR FILING DATE: 1996-08-30
NUMBER OF SEQ ID NOS: 6
SOFTWARE: Patent In version 3.1
SEQ ID NO 1
LENGTH: 31
TYPE: PRT
ORGANISM: Homo sapiens
US-09-834-229A-1

Query Match 92.4% Score 134 DB 9 Length 31;
Best Local Similarity 93.1% Pred. No. 1.5e-13;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 29
|||||
Db 2 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 30

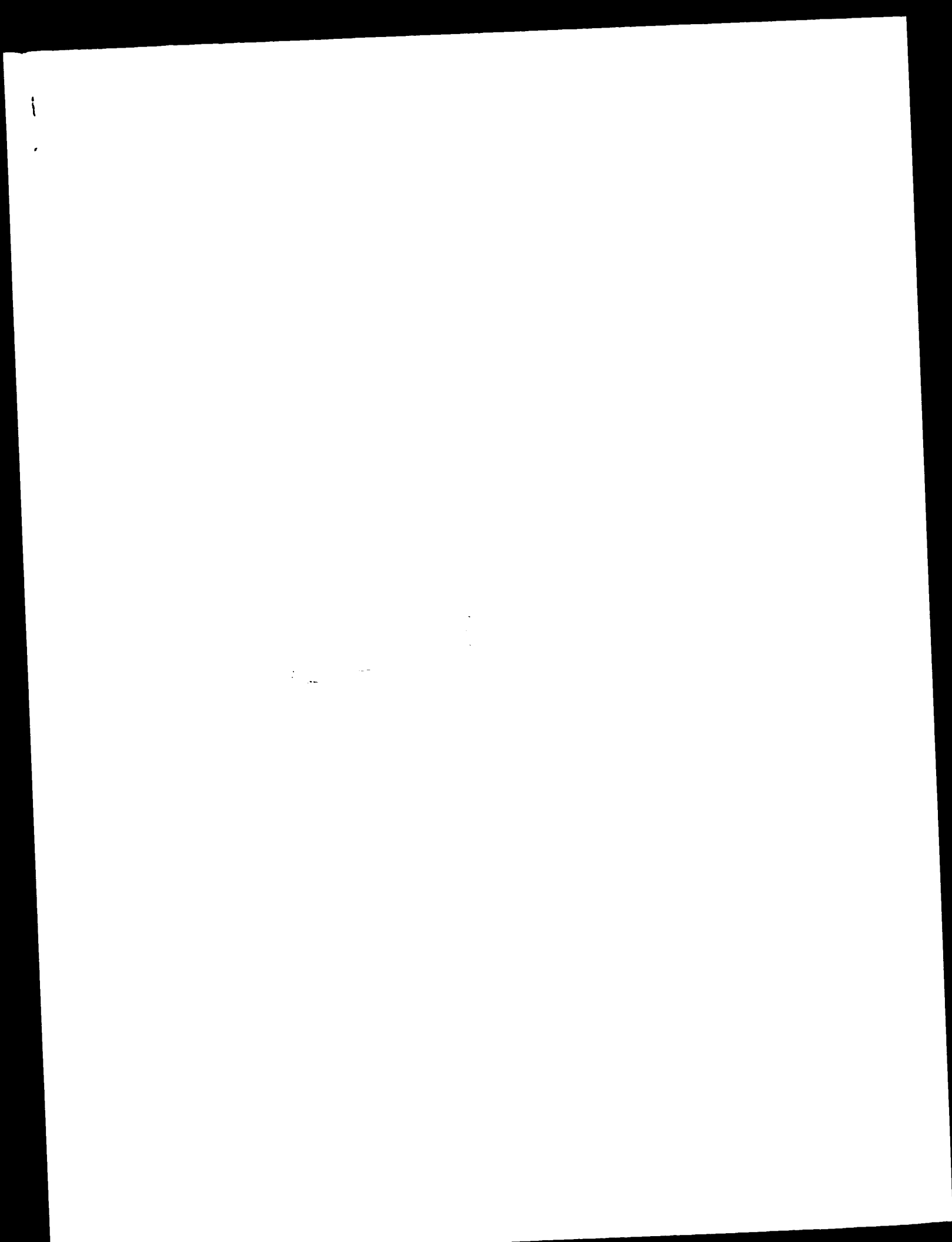
RESULT 15
US-09-997-792-1
Sequence 1, Application US/09997792

; Publication No. US20030045464A1
; GENERAL INFORMATION:
; APPLICANT: Hermeling, Ronald
; APPLICANT: Hoffmann, James
; APPLICANT: Narasimhan, Chakravarthy
; TITLE OF INVENTION: GLOUCAGON-LIKE PEPTIDE-1 CRYSTALS
; FILE REFERENCE: X-10242
; CURRENT APPLICATION NUMBER: US/09/997,792
; CURRENT FILING DATE: 2001-11-30
; NUMBER OF SEQ ID NOS: 29
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO: 1
; LENGTH: 31
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-997-792-1

Query Match 92.4%; Score 134; DB 9; length 31;
Best local Similarity 93.1%; Pred. No. 1.5e-13;
Matches 27, Conservative 0, Mismatches 2, Indels 0, Gaps 0,

QY 1 AEGFTSDVSSYLEGQAAKEFTIAWEEKR 29
|||||
DB 2 AEGFTSDVSSYLEGQAAKEFTIAWEEKR 30

Search completed: May 13, 2003, 09:36:47
Job time: 16.2542 secs



F:126-158/Product: glucagon-like peptide 2 #status experimental <GL2>
F:107/Modified site: amidated carboxyl end (Arg) (amide in mature form from following

Query Match 92.4% Score 134: DB 1: Length 158;
Best Local Similarity 94.1% Pred. No. 80-13;
Matches 27: Conservative 0: Mismatches 2: Indels 0: Gaps 0:

QY 1 AEGFTSDVSSYLEGQAAKEFIAWVKGR 29
DB 79 AEGFTSDVSSYLEGQAAKEFIAWVKGR 107

RESULT 2

glucagon precursor [validated] : human

N:Contents: glicentin; glicentin-related polypeptide (GRPP); glucagon; glucagon-like peptide

C:Species: Homo sapiens (man)

C:Date: 24-Apr-1984 #sequence-revision 31-Mar-1993 #text-change 08-Dec-2000

C:Accession: A24377; A44197; A30875; A32614; A01541; S23309

R:Miller, J.M.; Saunders, G.F.
Nucleic Acids Res. 14, 4719-4730, 1986

A:Title: Structure of the human glucagon gene.

A:Reference number: A24377; M01D:86259053; PMID:3725587

A:Accession: A24377

A:Molecule type: DNA

A:Residues: 1-180 <WH1>

A:Cross-references: GR:X03991

R:Miller, J.M.; Sanchez-Pescador, R.; Laybourn, P.J.; Najarian, R.C.
Nature 304, 368-371, 1983

A:Title: Exon duplication and divergence in the human preproglucagon gene.

A:Reference number: A44197; M01D:83271477; PMID:6877458

A:Accession: A44197

A:Molecule type: DNA

A:Residues: 1-179 <HE1>

A:Cross-references: GR:V01515; NID:q31777; PIN:CAA24759.1; PID:q31778

R:Drucker, D.J.; Asd, S.
J. Biol. Chem. 263, 13475-13478, 1988

A:Title: Glucagon gene expression in vertebrate brain.

A:Reference number: A10875; M01D:88330850; PMID:2901414

A:Accession: A10875

A:Molecule type: mRNA

A:Residues: 1-180 <DR1>

A:Cross-references: GR:J04040; NID:q183269; PID:AA52567.1; PID:q183270

R:Orskov, C.; Bergsma, M.; Johnson, A.H.; Mojup, P.; Holst, J.J.
J. Biol. Chem. 264, 12826-12829, 1989

A:Title: Complete sequences of glucagon-like peptide-1 from human and pig small intestine

A:Reference number: A92732; M01D:89327238; PMID:2754890

A:Accession: A12614

A:Molecule type: protein

A:Residues: 98-127 <ORS>

R:Thomsen, J.; Kristiansen, K.; Brunfeldt, K.; Sundby, F.
FEBS Lett. 21, 315-319, 1972

A:Title: The amino acid sequence of human glucagon.

A:Reference number: A91373

A:Accession: A01541

A:Molecule type: protein

A:Residues: 53-81 <THO>

R:Tsujita, A.; Takemoto, K.; Kame, M.; Iwamoto, H.
Eur. J. Biochem. 206, 691-696, 1992

A:Title: C-terminal sequencing of protein. A novel partial acid hydrolysis and analysis

A:Reference number: S23188; M01D:92298996; PMID 1606466

A:Accession: S23109

A:Molecule type: protein

A:Residues: 53-81 <TSU>

C:Comment: In pancreatic alpha cells, proglucagon is processed to truncated glucagon-like peptide 1, glucagon-like peptide 2, and glucagon-like peptide 3. In the

C:Superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; 1

F:1-20/Domain: signal sequence #status predicted <SIG>

F:21-180/Product: proglucagon #status experimental <PGC>

F:21-89/Product: glicentin #status experimental <GN>

F:21-50/Product: glicentin related polypeptide #status predicted <GRPP>

F:53-89/Product: oxyntomodulin #status experimental <OMX>

F:92-178/Product: major proglucagon fragment #status experimental <MPGF>

F:92-127/Product: glucagon-like peptide 1 #status experimental <GL1>

F:98-127/Product: truncated glucagon-like peptide 2 #status experimental <GL2>

F:146-178/Product: glucagon-like peptide 2 #status predicted <GL2>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following

Query Match 92.4% Score 134: DB 1: Length 180;
Best Local Similarity 94.1% Pred. No. 9-20-13;
Matches 27: Conservative 0: Mismatches 2: Indels 0: Gaps 0:

QY 1 AEGFTSDVSSYLEGQAAKEFIAWVKGR 29
DB 99 AEGFTSDVSSYLEGQAAKEFIAWVKGR 127

RESULT 3

glucagon precursor - guinea pig

N:Alternate names: oxyntomodulin

N:Contents: glicentin-related peptide; glucagon; glucagon-37 (oxyntomodulin); glucagon-like

C:Species: Cavia porcellus (guinea pig)

C:Date: 30-Sep-1987 #sequence-revision 31-Dec-1992 #text-change 16-Jun-2000

C:Accession: A24856; A23849; A60323

R:Seino, S.; Welsh, M.; Bell, G.I.; Chan, S.J.; Steiner, D.F.
FEBS Lett. 203, 25-30, 1986

A:Title: Mutations in the guinea pig preproglucagon gene are restricted to a specific

A:Reference number: A24856; M01D:86248118; PMID:3755107

A:Accession: A24856

A:Molecule type: mRNA

A:Residues: 1-180 <SEI>

A:Cross-references: GR:U00014; GR:U00014; NID:q220288; PIN:AA90610.1; PID:q220288

R:Huang, C.G.; Peng, J.; Pan, Y.C.E.; Holmes, J.D.; Yalow, R.S.
Diabetes 35, 508-512, 1986

A:Title: Guinea pig glucagon differs from other mammalian glucagons.

A:Reference number: A23849; M01D:86165412; PMID:3956884

A:Accession: A23849

A:Molecule type: protein

A:Residues: 53-81 <HUA>

R:Conlon, J.M.; Hansen, H.F.; Schwartz, T.W.
Regul. Pept. 11, 309-320, 1985

A:Title: Primary structure of glucagon and a partial sequence of oxyntomodulin (glucagon-like peptide 1) from the guinea pig

A:Reference number: A60323; M01D:86017849; PMID:4048553

A:Accession: A60323

A:Molecule type: protein

A:Residues: 53-81 <CON>

A:Note: glucagon-37 was not completely sequenced

C:Superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pa

F:1-20/Domain: signal sequence #status predicted <SIG>

F:21-180/Product: proglucagon #status predicted <PGC>

F:21-50/Product: glicentin-related peptide #status predicted

F:53-89/Product: glucagon-37 (oxyntomodulin) #status predicted

F:92-178/Product: major proglucagon fragment #status experimental <MPGF>

F:92-127/Product: glucagon-like peptide 1 #status experimental <GL1>

F:98-127/Product: truncated glucagon-like peptide 2 #status experimental <GL2>

F:146-178/Product: glucagon-like peptide 2 #status predicted <GL2>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following

Query Match 92.4% Score 134: DB 1: Length 180;
Best Local Similarity 93.1% Pred. No. 9-20-13;
Matches 27: Conservative 0: Mismatches 2: Indels 0: Gaps 0:

QY 1 AEGFTSDVSSYLEGQAAKEFIAWVKGR 29
DB 99 AEGFTSDVSSYLEGQAAKEFIAWVKGR 127

RESULT 4

GCRDQ

glucagon precursor - degu

N-terminus: glycine-related peptide; glucagon-like peptide 1; glucagon-like

C-species: Octodon degus (degu)

C-date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #extl_change 18-Jun-1999

C-accession: C36118

R: Nishi, M.; Steiner, D.F.

MOL. Endocrinol. 4, 1192-1196, 1990

A-title: Cloning of complementary DNAs encoding islet amyloid polypeptide, insulin, and

A-reference number: A36118; PMID:91155952; PMID:2293024

A-accession: C36118

A-molecule type: mRNA

A-residues: 1-180 <NHI>

A-cross-references: GIK M7688; NID:920467; P1EN AAA0564; F1D:9202468

C-superfamily: glucagon

C-keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancre

F:1-20/Domain: signal sequence #status predicted <SIG>

F:21-180/Product: proglucagon #status predicted <SIG>

F:51-50/Region: glucagon-like peptide #status predicted

F:98-127/Product: glucagon-like peptide 1 #status predicted <GLI>

F:146-178/Product: glucagon-like peptide 2 #status predicted <GLI>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

Query Match

Best Local Similarity 93.1%; Pred. No. 9, 2e-13;

Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AHCFTSDVSSYLEGGAAKFFIAWVKR 29

DB 99 AHCFTSDVSSYLEGGAAKFFIAWVKR 127

RESULT 5

GCR1

glucagon precursor - rat

N-terminus: glycine-related peptide; glucagon-like peptide 1; glucagon-like

C-species: Rattus norvegicus (Norway rat)

C-date: 30-Sep-1987 #sequence_revision 30-Sep-1987 #extl_change 26-Feb-1999

C-accession: A22655; A25190; A44198

R: Heinrich, G.; Gros, P.; Habener, J.F.

J. Biol. Chem. 263, 14082-14087, 1988

A-title: Glucagon gene sequence: four of six exons encode separate functional domains of

A-reference number: A22655; M1P:8504453; PMID:3094439

A-accession: A22655

A-molecule type: DNA

A-residues: 1-180 <NHI>

A-cross-references: EMBL:K02809

A-note: the authors translated the codon TTT for residue 10 as Gln and AAT for residue 9

R: Mojsov, S.; Heinrich, G.; Wilson, I.R.; Fava2040; M. Groll, T.; Habener, J.F.

J. Biol. Chem. 261, 11880-11889, 1986

A-title: Proglucagon gene expression in pancreas and intestine diversifies at the lev

A-reference number: A25190; M1D:8630424; PMID:3528148

A-accession: A25190

A-status: not compared with conceptual translation

A-molecule type: mRNA

A-residues: 1-180 <MDI>

R: Heinrich, G.; Gros, P.; Land, P.K.; Bantley, R.G.; Habener, J.F.

Endocrinology 115, 2176-2181, 1984

A-title: Preproglucagon messenger ribonucleic acid, nucleotide and encoded amino acid s

A-reference number: A44198; M1D:85051023; PMID:6548696

A-accession: A44198

A-status: preliminary

A-molecule type: mRNA

A-residues: 1-180 <HF2>

A-cross-references: GB:K02809; GB:K02810; GB:K02811; GB:K02812

A-introns: 31/2; 85/2; 131/2; 179/2

C-superfamily: glucagon

C-keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancre

F:1-20/Domain: signal sequence #status predicted <SIG>

F:21-180/Product: proglucagon #status predicted <SIG>

F:53-81/Region: glucagon-like peptide #status predicted

F:98-127/Product: glucagon-like peptide 1 #status predicted <GLI>

F:146-180/Product: glucagon-like peptide 2 #status predicted <GLI>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following

Query Match 92.4%; Score 134; DB 1; Length 180;

Best Local Similarity 93.1%; Pred. No. 9, 2e-13;

Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AHCFTSDVSSYLEGGAAKFFIAWVKR 29

DB 99 AHCFTSDVSSYLEGGAAKFFIAWVKR 127

RESULT 6

GCHV

glucagon precursor - golden hamster

N-terminus: glycine-related peptide; glucagon-like peptide 1; glucagon-like

C-species: Mesocricetus auratus (golden hamster)

C-date: 13-Jun-1983 #sequence_revision 13-Jun-1983 #extl_change 20-Mar-1998

C-accession: A01539

R: Bell, G.; Satterly, R.F.; Mulenbach, G.F.

Nature 302, 716-718, 1983

A-title: Hamster preproglucagon contains the sequence of glucagon and two related p

A-reference number: A01539; M1D:8167563; PMID:683407

A-accession: A01539

A-molecule type: mRNA

A-residues: 1-180 <NHI>

A-cross-references: EMBL:J00059

C-superfamily: glucagon

C-keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancre

F:1-20/Domain: signal sequence #status predicted <SIG>

F:21-180/Product: proglucagon #status predicted <SIG>

F:53-81/Product: glucagon-like peptide #status predicted

F:98-127/Product: glucagon-like peptide 1 #status predicted <GLI>

F:146-180/Product: glucagon-like peptide 2 #status predicted <GLI>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from followi

Query Match 92.4%; Score 134; DB 1; Length 180;

Best Local Similarity 93.1%; Pred. No. 9, 2e-13;

Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AHCFTSDVSSYLEGGAAKFFIAWVKR 29

DB 99 AHCFTSDVSSYLEGGAAKFFIAWVKR 127

RESULT 7

GCBQ

glucagon precursor - bovine

N-terminus: glycine-related peptide; glucagon-like peptide 1; glucagon-like

C-species: Bos primigenius taurus (cattle)

C-date: 14-Nov-1983 #sequence_revision 14-Nov-1983 #extl_change 20-Mar-1998

C-accession: A93970; A92081; A01538

R: Lopez, L.C.; Frazier, M.L.; Su, G.J.; Kumar, A.; Saunders, G.F.

Proc. Natl. Acad. Sci. U.S.A. 80, 5485-5489, 1983

A-title: Mammalian pancreatic preproglucagon contains three glucagon-related peptide

A-reference number: A93970; M1D:8329996; PMID:6577439

A-accession: A93970

A-molecule type: mRNA

A-residues: 1-180 <LDP>

A-cross-references: EMBL:K00107

R: Bromer, W.W.; Hougher, M.E.; Koffenberger Jr., J.E.

J. Biol. Chem. 258, 2822-2827, 1971

A-title: Amino acid sequence of bovine glucagon.

A-reference number: A92081; M1D:7116445; PMID:5102927

A-accession: A92081

A-molecule type: protein

A-residues: 54-81 <BDQ>

C-superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancre
 F:1.20/Domain: signal sequence #status predicted <SIG>
 F:2.1-180/Product: proglucagon #status predicted <PGC>
 F:2.1-50/Region: qlucant in related peptide #status predicted
 F:3.81/Product: glucagon #status experimental <GCN>
 F:127/Product: glucagon-like peptide 1 #status experimental <GL1>
 F:146-174/Product: glucagon-like peptide 2 #status predicted <GL2>
 F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

Query Match 92.4% Score 134; DB 1; Length 180;
 Best Local Similarity 93.1%; Pred. No. 9, 2e-13;
 Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

UY 1 AEGFTSDVSSYLEGQAAKEFLAMEYKGR 29
 |||||
 Db 99 AEGFTSDVSSYLEGQAAKEFLAMEYKGR 127

RESULT 8

A57294
 glucagon precursor mouse
 C:Species: Mus musculus (house mouse)
 C>Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 16-Jul-1999
 C:Accession: A57294; S49903
 R:Kochenberg, M.E.; Ellettson, C.D.; Klein, K.; Zhou, Y.; Lindberg, I.; McDonald, J.K.;
 J. Biol. Chem. 270, 10136-10146, 1995
 A>Title: Processing of mouse proglucagon by recombinant prohormone convertase 1 and immu
 A:Reference number: A57294; PMID:95247722; PMID:7730417
 A:Accession: A57294
 A>Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-180 <POL>
 A:Cross-references: EMBL:Z46845; NID:9599880; PUDN:CAAB6902.1; PTD:9599881
 C:Superfamily: glucagon
 C:Keywords: carbohydrate metabolism; duplication; hormone; pancreas

Query Match 92.4% Score 134; DB 2; Length 180;
 Best Local Similarity 93.1%; Pred. No. 9, 2e-13;
 Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

UY 1 AEGFTSDVSSYLEGQAAKEFLAMEYKGR 29
 |||||
 Db 99 AEGFTSDVSSYLEGQAAKEFLAMEYKGR 127

RESULT 9

gcfu
 glucagon precursor - chicken
 N:Contains: glucagon; glucagon-like peptide 1
 C:Species: Gallus gallus (chicken)
 C>Date: 31-Dec-1991 #sequence_revision 31-Mar-1993 #text_change 18-Jun-1999
 R:Blasegwa, S.; Terazono, K.; Noda, K.; Takada, T.; Yamamoto, H.; Okamoto, H.
 FEBS Lett. 264, 117-120, 1990
 A>Title: Nucleotide sequence determination of chicken glucagon precursor cDNA. Chicken
 A:Reference number: S09992; PMID:95249492; PMID:2338135
 A:Accession: S09992
 A:Molecule type: mRNA
 A:Residues: 1-151 <HMS>
 A:Cross-references: FMBL:Y07539; NID:963749; PUDN:CAAB6827.1; PTD:963750
 R:Pollock, H.G.; Kimmel, J.R.
 J. Biol. Chem. 250, 9377-9380, 1975
 A>Title: Chicken glucagon. Isolation and amino acid sequence studies.
 A:Reference number: A92189; PMID:76069271; PMID:1194290
 A:Accession: A92189
 A:Molecule type: protein
 A:Residues: 55-83 <POL>
 R:Huang, J.; Eng, J.; Yalow, R.S.
 Horm. Metab. Res. 19, 542-544, 1987
 A>Title: Chicken glucagon: sequence and potency in receptor assay.
 A:Reference number: A60846; PMID:8114418; PMID:2828209
 A:Accession: A60846
 A:Molecule type: protein

A:Residues: 55-83 <HUA>
 C:Superfamily: glucagon
 C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pe
 F:1.22/Domain: signal sequence #status predicted <SIG>
 F:2.1-151/Product: proglucagon #status predicted <PGC>
 F:5.83/Product: glucagon #status experimental <GCN>
 F:118-147/Product: glucagon-like peptide 1 #status predicted <GL1>
 F:147/Modified site: amidated carboxyl end (Arg) (amide in mature form from followin

Query Match 84.1% Score 122; DB 1; Length 151;
 Best Local Similarity 79.3%; Pred. No. 5e-11;
 Matches 23; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

UY 1 AEGFTSDVSSYLEGQAAKEFLAMEYKGR 29
 |||||
 Db 119 AEGFTSDVSSYLEGQAAKEFLAMEYKGR 147

RESULT 10

151301
 proglucagon - chicken
 C:Species: Gallus gallus (chicken)
 C>Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
 C:Accession: 151301
 R:Irwin, D.M.; Wong, J.
 Mol. Endocrinol. 9, 267-277, 1995
 A>Title: Trout and chicken proglucagon: alternative splicing generates mRNA transcrip
 A:Reference number: A64893; PMID:9529739; PMID:7776976
 A:Accession: 151301
 A>Status: preliminary; translated from GB/EMBL/DBJ
 A:Molecule type: mRNA
 A:Residues: 1-209 <HMS>
 A:Cross-references: GB:S78477; NID:9993880; PUDN:AA84506.1; PTD:999387
 C:Superfamily: glucagon
 C:Keywords: duplication

Query Match 84.1% Score 122; DB 2; Length 206;
 Best Local Similarity 79.3%; Pred. No. 7e-11;
 Matches 23; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

UY 1 AEGFTSDVSSYLEGQAAKEFLAMEYKGR 29
 |||||
 Db 119 AEGFTSDVSSYLEGQAAKEFLAMEYKGR 147

RESULT 11

gcfu
 glucagon precursor - bullfrog (fragments)
 N:Alternate names: oxyntomodulin
 N:Contains: glucagon; glucagon-36 (oxyntomodulin); glucagon-like peptide 1; glucagon
 C:Species: Rana catesbeiana (bullfrog)
 C>Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 20-Mar-1998
 C:Accession: B48091; C28091; D28091
 R:Pollock, H.G.; Hamilton, J.W.; Rouse, J.H.; Phner, K.F.; Kawitch, A.H.
 J. Biol. Chem. 263, 9746-9751, 1988
 A>Title: Isolation of peptide hormones from the pancreas of the bullfrog (Rana cates
 A:Reference number: A92710; PMID:88257102; PMID:3260236
 A:Accession: R28091
 A:Molecule type: protein
 A:Residues: 1-36 <POL>
 A:Accession: C28091
 A:Molecule type: protein
 A:Residues: 37-68 <POL>
 A:Accession: D28091
 A:Molecule type: protein
 A:Residues: 69-101 <POL>
 C:Superfamily: glucagon
 C:Keywords: carbohydrate metabolism; duplication; hormone; pancreas
 F:1-36/Product: glucagon-36 (oxyntomodulin) #status experimental <G36>
 F:1-29/Product: glucagon #status predicted <GCN>
 F:37-67/Product: glucagon-like peptide 1 #status experimental <GL1>
 F:69-101/Product: glucagon-like peptide 2 #status experimental <GL2>

Query Match	74.58;	Score	108;	EB	1;	Length	101;
Best Local Similarity	69.0%;	Pred	No	4	3e-09;		
Matches	20;	Conservative	5;	Mismatches	4;	Indels	0;
						Gaps	0;

QY 1 AFGTFTSDVSSYLEGQAAKEFIAMVEKGR 29
1:|||||:||||:||||:||||
Db 38 ADGFTSDMSYLEEKAKEFVDWLKGR 66

RESULT 12
B61125

glucagon-like peptide - American eel
C:Species: *Anguilla rostrata* (American eel)
C:Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 21-Nov-1997
C:Accession: B61125
R:Conlon, J.M.; Andrews, P.C.; Thin, L.; Moon, T.W.
Gen Comp Endocrinol. 82, 23-32, 1991
A:Title: The primary structure of glucagon-like peptide but not insulin has been conserved in teleost fish
A:Reference number: A61125 MIM:91349056, PMID 1874385
A:Accession: B61125
A:Molecule type: protein
A:Residues: 1-30 <CON>
C:Superfamily: glucagon
C:Keywords: amidated carboxyl end; duplication
E:1-30/Product: glucagon-like peptide-#status experimental -GIP-
E:30/Modified site: amidated carboxyl end (Arg) #status predicted

Query Match	72.48	Score 105	DB 2	length 30
Best Local Similarity	69.08	pred. NO	3.4e-09	
Matches	20	Conservative	4	Mismatches 5
				Indels 0
				Gaps 0

```
QY      1 AEGFTSDVSSYLEGQAAKEFIAMVEKGR 29
          |||:|||||: |||:|
Db       2 AFGTYTSDVSSYLQDQAAKEFVSWLKIGR 30
```

RESULT 13
C61125

glucagon-like peptide - European eel
 G:Species: *Anguilla anguilla* (European eel)
 C:Date: 10 Mar-1994 #sequence_revision 10 Mar-1994 #text_change 21-Nov-1997
 C:Accession: C61125
 R:Condon, J.M.; Andrews, P.C.; Thim, L.; Moon, T.W.
 Gen. Comp. Endocrinol. 82, 23-32, 1991
 A:Title: The primary structure of glucagon-like peptide but not insulin has been conserved
 A:Reference number: A61125; MOL. Biol. 187, 385
 A:Accession: C61125
 A:Molecule type: protein
 A:Residues: 1-30 (resN)
 C:Superfamily: glucagon
 C:Keywords: amidated carboxyl end; duplication
 C:Keywords: glucagon-like peptide; #status exp-confirmed; GP,
 F,1-32;product glucagon-like peptide; #status experimental
 F,30;Modified site: amidated carboxyl end (Arg) #status experimental

Query Match	72.48;	Score 105;	DB 2;	Length 30;
Best Local Similarity	69.08;	Pred No	3 4e-09;	
Matches	20;	Conservative	4;	Mismatches 5;
				Indels 0;
				Gaps 0

QY 1 AECGTPTSDVSSSYLPCQAAKEFIAMEVKGR 29
 |||:|||||: ||| |||: ||
 Db 2 AEGTYSDEVSSSYLQDQAAKEFVSWLKTGR 30

RESULT 14

glucagon 2 precursor - American gooselish
M.Contains: glucagon, glucagon like peptide 1
C:Species: Lophius americanus (American gooselish)
C:Date: 31-Mar-1993 #sequence, revision 31-Mar-1993 #text, revision 21-Jul-2000
U:Accession: A05150
R:Fund: P.K. Goodman, R.H. Mottiminy, M.R. Dev, P.C. Habener, J.F.
J. Biol. Chem. 258, 3280-3284, 1983
U:Title: Angioretic islet pre-proglucagon II Nucleotide and corresponding amino acid se

A. Reference number, A05150, MUIE.83135785, PMID.6338015
B. Accession, A05150

A; Accession: A05150

A; molecule type: mRNA
A; residues: 1-122 <100>

C) Superfamily: qIucagon
A) Cross references: CH_30833, NID_364021, PFIN_GAA3205.1, PIDG64022

C/Keywords: carbohydrate metabolism; duplication; hormone; pancreas; E1-21/Domain; signal sequence; status of/affected (S13)

File: 122/Product: Proj: Oregon 2 #Status: predicted - PSC2

F, 89.60/Product: glucagon #status predicted <GL1>
F, 89.119/Product: glucagon-like peptide 1 #status predicted <GL1>

Query Match 68.3%; Score 99; DB 1; Length 122;

Best Local Similarity	62.18	Pred. No. 1.2e-07
Matches	18	Conservative
	6	Mismatches
	5	Indels
	0	Gaps
	0	

07 1 ACCTGTSINSSYLFQCAAXHPTAMEVKCR 29
 30 ADSTYTSLEVSSYLQDQAKDFVSWLKAGR 118

RESULT 15
151093

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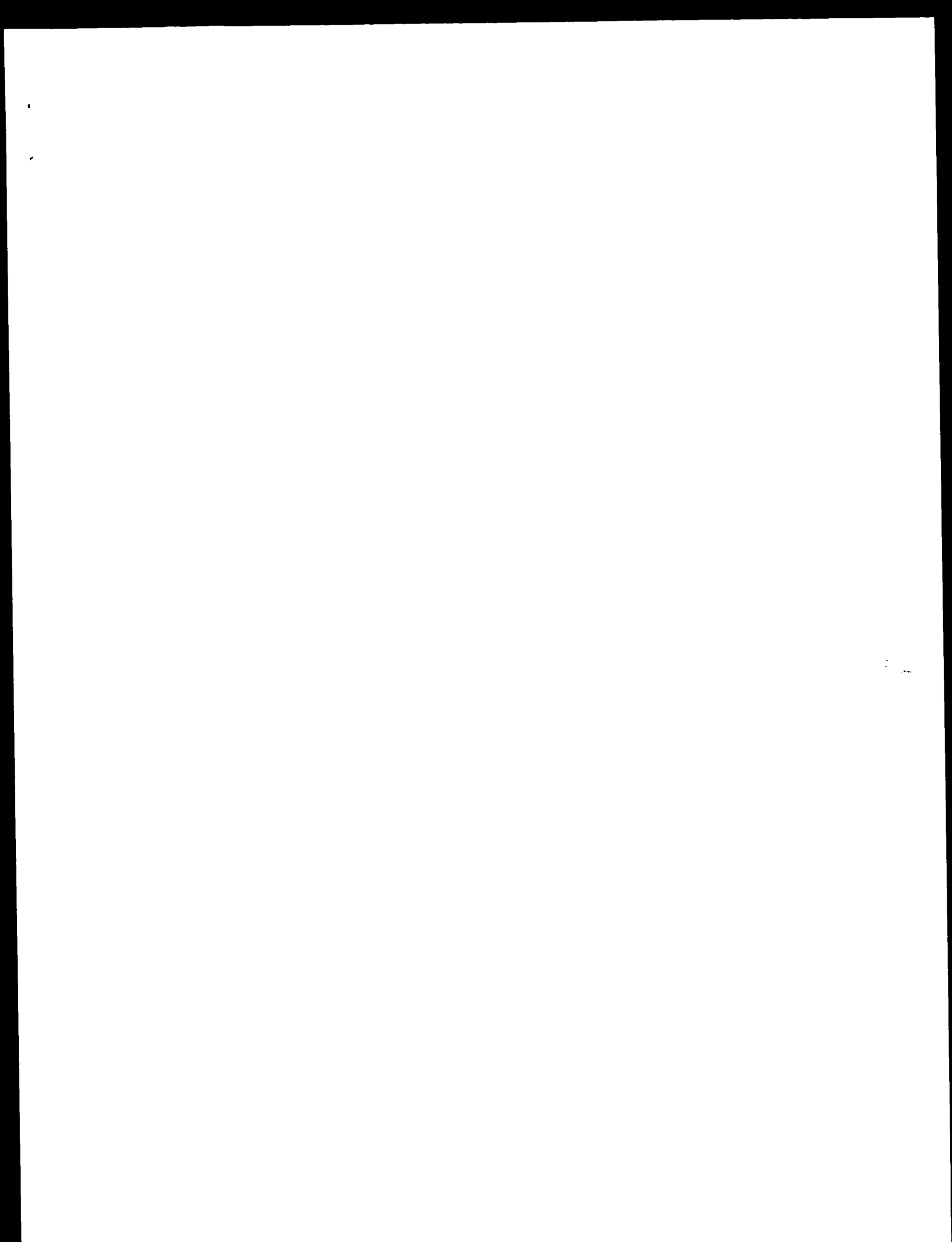
A:Status: preliminary; translated from GR/EMBL/JDBJ
A:Molecule type: mRNA
A:Residues: 1-66 <1KW>
A:Cross-references: EMBL:U09920; NID:q736366; PIDD:AA596670.1; PID:q736367
C:Superfamily: glucagon
C:Keywords: duplication

query Match 00.98; Score 97; IM 2; Length 66

Best local similarity	58.68;	Pred. No. 1.3e-07;
Matches	17;	Conservative
Mismatches	5;	Indels
		0

QY 1 AEGFTSDVSSYLEGQAAKEFLAMEVKGR 29
 | : : : : : : : : : : : : : : : :
Lb 34 ALMDYISIVSYTICLDAAKIDHVSMLKSGR 62

Search completed: May 13, 2004, 09:28:33
Job time : 26.9492 secs



GenCore version 5.1.4.P5_4578
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OM protein - protein search, using sw model

Run on: May 13, 2003, 08:50:12 ; Search time 15.2542 seconds
(without alignments)
81.570 Million cell updates/sec

Title: US-09-868-974-3
Perfect score: 145
Sequence: 1 AEGFTSDVSSYLEGQAXEPIAWEKGRPX 30

Scoring table: BIOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 112892 seqs, 41476328 residues

Total number of hits satisfying chosen parameters: 112892

Minimum DB seq length: 0
Maximum DB seq length: 2300000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database: SwissProt_40.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	134	92.4	158	1	GLUC_PIG
2	134	92.4	180	1	GLUC_BOVIN
3	134	92.4	180	1	GLUC_HUMAN
4	134	92.4	180	1	GLUC_HUMAN
5	134	92.4	180	1	GLUC_MOUSE
6	134	92.4	180	1	GLUC_MOUSE
7	134	92.4	180	1	GLUC_OCTDE
8	134	92.4	180	1	GLUC_RAT
9	134	92.4	180	1	GLUC_RAT
10	134	92.4	180	1	GLUC_RAT
11	134	92.4	180	1	GLUC_RAT
12	134	92.4	180	1	GLUC_RAT
13	134	92.4	180	1	GLUC_RAT
14	134	92.4	180	1	GLUC_RAT
15	134	92.4	180	1	GLUC_RAT
16	134	92.4	180	1	GLUC_RAT
17	134	92.4	180	1	GLUC_RAT
18	134	92.4	180	1	GLUC_RAT
19	134	92.4	180	1	GLUC_RAT
20	134	92.4	180	1	GLUC_RAT
21	134	92.4	180	1	GLUC_RAT
22	134	92.4	180	1	GLUC_RAT
23	134	92.4	180	1	GLUC_RAT
24	134	92.4	180	1	GLUC_RAT
25	134	92.4	180	1	GLUC_RAT
26	134	92.4	180	1	GLUC_RAT
27	134	92.4	180	1	GLUC_RAT
28	134	92.4	180	1	GLUC_RAT
29	134	92.4	180	1	GLUC_RAT
30	134	92.4	180	1	GLUC_RAT
31	134	92.4	180	1	GLUC_RAT
32	134	92.4	180	1	GLUC_RAT
33	134	92.4	180	1	GLUC_RAT

ALIGNMENTS

RESULT 1	GLUC_PIG	STANDARD:	PRT:	158 AA.
AC	GLUC_PIG			
DT	01-JUL-1986 (Rel. 01, Created)			
DT	01-NOV-1990 (Rel. 16, Last sequence update)			
DT	16-OCT-2001 (Rel. 40, Last annotation update)			
DE	Glucagon precursor [Canalis, Glucellin, Glucellin-related polypeptide (GEP): glucagon; glucagon-like peptide-1 (GLP1): glucagon-like peptide 2 (GLP2)] (Fragment).			
DE	peptide 2 (GLP2)] (Fragment).			
CN	CCC.			
OS	Sus scrofa (Pig).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Cetartiodactyla; Suidae; Suidae; Sus.			
OX	NCBI_TaxID=9823;			
RN	[1]			
RP	SEQUENCE OF 1-69.			
RX	MEDLINE=81246172; PubMed=6894800;			
RA	Thim L., Moody A.D.;			
RT	"The primary structure of porcine glucellin (proglucagon)."			
RL	Regul. Pept. 2:139-150(1981).			
RN	[2]			
RP	SEQUENCE OF 1-69.			
RX	MEDLINE=8221776; PubMed=7045833;			
RA	Thim L., Moody A.D.;			
RT	"The amino acid sequence of porcine glucellin."			
RL	Regul. Pept. 2:139-150(1981).			
RN	[3]			
RP	SEQUENCE OF 33-61.			
RA	Bromer W.W., Sinn J.G., Behrens O.K.;			
RT	"The amino acid sequence of glucagon. V. Location of amide groups, acid degradation studies and summary of sequential evidence."			
RL	J. Am. Chem. Soc. 79:2807-2810(1957).			
RN	[4]			
RP	SEQUENCE OF 78-107.			
RX	MEDLINE=89327238; PubMed=2753890;			
RA	Oskov C., Bersani M., Tolonen A.H., Hoelrup P., Holst J.J.;			
RT	"Complete sequences of glucagon-like peptide-1 from human and pig small intestine."			
RL	J. Biol. Chem. 264:12826-12829(1989).			
RN	[5]			
RP	SEQUENCE OF 111-158.			
RX	MEDLINE=89243712; PubMed=3379036;			
RA	Bahl T., Thim L., Kotani H., Oskov C., Halling H., Holst J.J.;			
RT	"Naturally occurring products of proglucagon 111-160 in the porcine and human small intestine."			
RL	J. Biol. Chem. 263:8521-8524(1988).			
RN	[6]			
RP	X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS)			
RX	MEDLINE=76051297; PubMed=171582;			
RA	Sasaki K., Dockett S., Adams P.A., Tickle I.J., Blundell T.L.;			
RT	"X-ray analysis of glucagon and its relationship to receptor binding."			
RL	Nature 257:751-757(1975).			
RN	[7]			
RP	FUNCTION: SUBSTRATE FOR THE HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES THE BLOOD SUGAR LEVEL.			

CC 1. FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC 1. INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLOGY WITH
 CC HUMAN SEQUENCE.
 CC 1. SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC PIR: A01540; GCG.
 CC DR: InterPro: IPR000532; Glucagon.
 CC DR: Pfam: PF00123; hormone2; 3.
 CC DR: SMART: SM00070; GLUCA; 3.
 CC DR: PROSITE: PS00260; GLUCAGON; 3.
 CC KW: Glucagon family; Hormone; Cleavage on pair of basic residues;
 CC 40-structure.
 CC FT: NON-TER 1 1
 CC FT: PEPTIDE 1 69 GLICENTIN.
 CC FT: PEPTIDE 1 30 GLICENTIN-RELATED POLYPEPTIDE.
 CC FT: PEPTIDE 33 61 GLUCAGON.
 CC FT: PEPTIDE 78 107 GLUCAGON-LIKE PEPTIDE 1.
 CC FT: PEPTIDE 126 158 GLUCAGON-LIKE PEPTIDE 2.
 CC FT: HELIX 39 42
 CC FT: TURN 43 45
 CC FT: HELIX 46 55
 CC FT: TURN 56 57
 CC SU: SEQUENCE 158 AA; 18212 MW; 280CFE257E33342 CRC64;
 OY 1 ACCTFTSDVSSYLEGQAAXEFTAMVEYKGR 29
 DB 79 ACCTFTSDVSSYLEGQAAXEFTAMVEYKGR 107
 RESULT 2
 ID GLUC_HOVIN STANDARD; PRT; 180 AA.
 AC P01272;
 DT 21-AUG-1986 (Rel. 01, Created)
 DT 13-AUG-1987 (Rel. 05, Last sequence update)
 DT 15-JUN-2002 (Rel. 41, Last annotation update)
 DE Glucagon precursor [Contains: Glucocorticoid-related polypeptide (GRP)];
 DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
 DE (GLP2)1.
 GN GCG.
 OS Bos taurus (Bovine).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Kuminantia; Perocera; Bovidae;
 OC Bovidae; Bovinae; Bos.
 OX NCBI_TaxID=9913;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=83299996; PubMed=6577439;
 RA Lopez L.C., Frazier M.L., Su C.J., Kumar A., Saunders G.F.;
 RT "Mammalian pancreatic preproglucagon contains three glucagon-related
 RT peptides";
 RL Proc. Natl. Acad. Sci. U.S.A. 80:5485-5489(1983).
 RN [2]
 RP SEQUENCE OF 53-81.
 RX MEDLINE=71166445; PubMed=5102927;
 RA Brower W.W., Houchter M.E., Koffenberg J.E. Jr.;
 RT "Amino acid sequence of bovine glucagon";
 RL J. Biol. Chem. 246:2822-2827(1971).
 RN [3]
 RP STRUCTURE BY NMR OF 53-81.
 RX MEDLINE=71166445; PubMed=6631957;
 RA Braun W., Wilder G., Lee K.H., Wulfrich K.;
 RT "Conformation of glucagon in a lipid-water interphase by 1H nuclear
 RT magnetic resonance";
 RL J. Mol. Biol. 169:921-948(1983).

CC 1. FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.
 CC 1. FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC 1. INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC 1. SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC PIR: A01538; GCHO.
 CC DR: EMBL: K00107; AAA30538.1;
 CC DR: PIR: A01538; GCHO.
 CC DR: PDB: 1KX6; 13-FEB-02.
 CC DR: InterPro: IPR000532; Glucagon.
 CC DR: Pfam: PF00123; hormone2; 3.
 CC DR: PRINTS: PR00275; GLUCAGON.
 CC DR: SMART: SM00070; GLUCA; 3.
 CC DR: PROSITE: PS00260; GLUCAGON; 4.
 CC KW: Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
 CC 30-structure.
 CC FT: SIGNAL 1 20
 CC FT: PEPTIDE 21 50 GLICENTIN-RELATED POLYPEPTIDE.
 CC FT: PEPTIDE 53 81 GLUCAGON.
 CC FT: PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
 CC FT: PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 CC SU: SEQUENCE 180 AA; 20944 MW; 8D9H4F0589F15FF CRC64;
 OY 1 ACCTFTSDVSSYLEGQAAXEFTAMVEYKGR 29
 DB 99 ACCTFTSDVSSYLEGQAAXEFTAMVEYKGR 127
 RESULT 3
 ID GLUC_CAVPU STANDARD; PRT; 180 AA.
 AC P05110;
 DT 13-AUG-1987 (Rel. 05, Created)
 DT 13-AUG-1987 (Rel. 05, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Glucagon precursor [Contains: Glucocorticoid-related polypeptide (GRP)];
 DE Glucagon; Glucagon-37 (Oxyntomodulin); Glucagon-like peptide 1 (GLP1);
 DE Glucagon-like peptide 2 (GLP2)1.
 GN GCG.
 OS Cavia porcellus (Guinea pig).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Hysticomathia; Caviidae; Cavia.
 OX NCBI_TaxID=10141;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86248118; PubMed=3755107;
 RA Selino S., Welsh M., Bell G.I., Chan S.J., Steiner D.F.;
 RT "Mutations in the guinea pig preproglucagon gene are restricted to a
 RT specific portion of the prohormone sequence";
 RL PNAS Lett. 203:25-30(1986).
 RN [2]
 RP SEQUENCE OF 53-81.
 RX MEDLINE=86165412; PubMed=3956884;
 RA Huang C.G., Fong J., Pan Y.-C.F., Holmes J.D., Yalow R.S.;
 RT "Guinea pig glucagon differs from other mammalian glucagons";
 RL Diabetes 35:508-512(1986).
 RN [3]
 RP PARTIAL SEQUENCE OF 53-89.

RX MEDLINE=86017849; PubMed=4048553;
 RA Conlon J M, Hansen H P, Schwartz T W;
 RT "Primary structure of glucagon and a partial sequence of
 RL oxyntomodulin (glucagon-37) from the guinea pig."
 CC Peptid. 11:309-320(1985)
 CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCERIN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.
 CC -1- FUNCTION: GLUCAGON STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC -1- INDUCTION: PREPARED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC -----
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 CC -----
 CC EMBL: D00014; BAA00010.1;
 CC PIR: A24856; GCGP.
 CC HSP: P01274; ICGN.
 CC InterPro: IPR005332; Glucagon
 CC Pfam: PF00123; hormone2.3.
 CC PRINTS: PR00275; GLUCAGON.
 CC SMART: SM00070; GLUCA.3.
 CC PROSITE: PS00260; GLUCAGON: 4.
 CC Glucagon family; Hormone; Cleavage of pairs of basic residues; Signal.
 CC SIGNAL: 1 20
 CC FT PEPTIDE 21 50 GLUCONIN-RELATED POLYPEPTIDE.
 CC FT PEPTIDE 53 81 GLUCONIN.
 CC FT PEPTIDE 53 89 GLUCAGON-37.
 CC FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
 CC FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 CC SU SEQUENCE 180 AA; 20972 MW; 7024B1B16102776 CRC64;
 CC -----
 CC Query Match 92.4% Score 134; DB 1; Length 180.
 CC Best Local Similarity 93.1%; Pred. No. 1; ee-13.
 CC Matches 27, Conservative 0; Mismatches 2; Indels 0; Gaps 0;
 CC -----
 CC RESULT 4
 CC ID GLUC_HUMAN STANFORD: PRT: 180 AA
 CC AC P01275;
 CC DT 21-JUL-1986 (Rel. 01, created)
 CC DT 13-AUG-1987 (Rel. 05, last sequence update)
 CC DT 15-JUN-2002 (Rel. 41, last annotation update)
 CC DE Glucagon precursor [contains: Glucagon-related polypeptide (GRPP);
 CC DE Glucagon; glucagon-like peptide 1 (GLP1); glucagon-like peptide 2
 CC DE (GLP2)].
 CC GN GCG.
 CC OS Homo sapiens (Human).
 CC CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC CC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
 CC OX NCBI_TaxID=9606;
 CC RX MEDLINE=8635080; PubMed=2301414;
 CC RA Drucker D J, Asa S;
 CC RT "Glucagon gene expression in vertebrate brain."
 CC RT J. Biol. Chem. 261:13475-13478(1988).
 CC PN [2]
 CC PP SEQUENCE FROM N A
 CC RX MEDLINE=86259053; PubMed=3725587;
 CC RA White J W, Saunders G F;
 CC -----

RT "Structure of the human glucagon gene."
 RL Nucleic Acids Res. 14:4719-4730(1986).
 CC [3]
 CC SEQUENCE FROM N.A.
 CC TISSUE: Liver;
 CC MEDLINE=83271477; PubMed=6877358;
 CC Bell G.T., Saperot Pascador R., Laybourn P.J., Najarian R.C.;
 CC "Exact duplication and divergence in the human preproglucagon gene."
 CC Nature 304:368-371(1983).
 CC [4]
 CC SEQUENCE FROM N.A.
 CC TISSUE: Pancreas;
 CC Submitted (MAR-2001) to the EMBL/GenBank/DDBJ databases.
 CC [5]
 CC SEQUENCE OF 53-81.
 CC Thomson T, Kristiansen K, Brunfeldt K, Sundby F;
 CC "The amino acid sequence of human glucagon."
 CC FEBS Lett. 41:315-319(1972).
 CC [6]
 CC SEQUENCE OF 98-127.
 CC MEDLINE=89327238; PubMed=2753890;
 CC Orskov C., Bersani M., Johnsen A.H., Hoelrup P., Holst J.J.;
 CC "Complete sequences of glucagon like peptide-1 from human and pig
 CC small intestine."
 CC J. Biol. Chem. 264:12626-12629(1989)
 CC [7]
 CC X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS) OF 53-81.
 CC MEDLINE=94334843; PubMed=9667960;
 CC Sturm N.S., Lin Y., Hurley S.K., Krystiansky J.I., Ahn J.M.,
 CC Azizch B.Y., Rivett D., Brady V.J.;
 CC "Structure function studies on positions 17, 18, and 21 replacement
 CC analogues of glucagon: the importance of charged residues and salt
 CC bridges in glucagon biological activity."
 CC J. Med. Chem. 41:2593-2700(1998).
 CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCERIN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.
 CC -1- FUNCTION: GLUCAGON STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC -1- INDUCTION: PREPARED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- PHARMACOLOGICAL: Available under the names Glucagon (Eli Lilly) and
 CC Glucagon or Glucagon Novo Nordisk (Novo Nordisk). Used to treat
 CC severe hypoglycemia in insulin-dependent diabetics.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC -1- DATABASE: NAME-glucagon at EMBL.
 CC NOTE- Clinical information on Eli Lilly glucagon products;
 CC WWW="http://www.lillylab.com/products/patientinfo.cfm".
 CC -----
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 CC EMBL: J04040; AAA52567.1;
 CC EMBL: X03991; CAA27627.1;
 CC EMBL: V01515; CAA24759.1;
 CC EMBL: BC005278; AAH05278.1;
 CC PIR: A24377; GCHD.
 CC PIR: S23309; S23309.
 CC PDB: 1BH0; 1B-NOV-98.
 CC GCGW: HGNC:4191, CCG.
 CC MIM: 138030;
 CC MIM: 241530;
 CC InterPro: IPR005332; Glucagon.
 CC Pfam: PF00123; hormone2.3.
 CC PRINTS: PR00275; GLUCAGON.
 CC SMART: SM00070; GLUCA.3.
 CC PROSITE: PS00260; GLUCAGON: 4.
 CC -----

DR PIR: A44198; A44198.
DE HSSP: P01274; IGCN.
DR InterPro: IPR000532; Glucagon.
DR RefSeq: NM00133; uc001fz3.2

DR PIR: A44198; A44198.
DE HSSP: P01274; IGCN.
DR InterPro: IPR000532; Glucagon.
DR RefSeq: NM00133; uc001fz3.2

DR	PRINTS:	PR000275;	GLUCAGON.
DR	SMART:	SM00070;	GLUCA: 3.
DR	PROSITE:	PSN0260;	GLUCAGON; 4.
DR	GLUCAGON	famity:	Hormone; cleavage on pair of basic residues; Signal.
KM	SIGNAL		20
FT	PEPT10E	21	50
FT	PEPT10E	53	81
FT	PEPT10E	92	128
FT	PEPT10E	146	178
FT	PEPTIDE		
SQ	SEQUENCE	180 AA:	2084c MW: 759414090367978 CR64:
	Query Match	92.4%:	Score 134:
	Post Local Similarity	93.1%:	Pred. No. 1.6e 13:
	Matches 27: conservative	0:	Mismatches 2: Indels 0: Gaps 0:
UY	1 AECTETSDVSSYLEGQAAXEFIAWEVKGR 29		
	l l l l l l l l		
ID	99 ACCTETSDVSSYLEGQAAXEFIAWEVKGR 127		

	RESULT 9		
GLUC_CHICK	STANDARD:	PRT:	151 AA.
ID	GLUC_CHICK		
AC	POI277:		
DT	21-JUL-1986 (Ref. 01, Created)		
DT	01-AUG-1990 (Ref. 15, Last sequence update)		
DT	15-JUL-1999 (Ref. 48, Last annotation update)		
DE	glucagon precursor,		
OS	Gallus gallus (Chicken), and		
OS	Megascops gallinopus (Common Turkey);		
OS	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;		
OC	Aves; Accipitriformes; Phasianidae; Gallinae;		
OC	Columbiformes; Columbidae; Columbaceae; Columbini;		
OC	Columba livia (Rock Dove);		
OC	NCBI_TaxID=9031, 9103;		
RN	[1]		
RP	SEQUENCE FROM N.A.		
KP	SPECIES=Chicken; TISSUE=Pancreas;		
KA	Medline=90249492; PubMed=2348119;		
RA	Hasegawa S., Terazono K., Naka T., Yamamoto H.,		
RA	Nucleotide sequence determination of chicken glucagon precursor		
RT	*Nucleotide sequence determination of chicken glucagon-like peptide		
RT	cDNA. Chicken proglucagon does not contain glucagon-like peptide		
RT	11.*;		
RL	FERS Lett. 264:117-120(1990).		
RN	[2]		
RP	SEQUENCE OF 55-83.		
RC	SPECIES=Chicken;		
KX	Medline=76049271; PubMed=1194290;		
WA	Poll-The G.C., Kimball J.R.;		
WA	*Chicken glucagon. Isolation and amino acid sequence studies.*;		
RL	J. Biol. Chem. 250:9377-9380(1975).		
RN	[3]		
RP	COMPOSITION, AND SEQUENCE OF 55-83.		
KP	SPECIES=M. gallinopus;		
KA	Medline=74074118; PubMed=4645933;		
KA	Mattsson J., Frandsen F.S., Heding L.G., Sundby F.;		
KA	Turkey glucagon: crystallization, amino acid composition and		
RT	immunology.*;		
RL	Biochim. Biophys. Acta 436:161-167(1972).		
RL	I FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND TRIPIDS, AND RAISES		
CC	THE BLOOD SUGAR LEVEL.		
CC	I INDUCTION: PRODUCED IN THE ISLETS OF LANGERHANS.		
CC	I IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.		
CC	I MISCELLANEOUS: THE COMPOSITION OF TURKEY GLUCAGON APPEARS TO BE		
CC	IDENTICAL WITH CHICKEN.		
CC	I MISCELLANEOUS: CHICKEN PREPROGLUCAGON DOES NOT CONTAIN		
CC	GLUCAGON-LIKE PEPTIDE 11.		
CC	I SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.		
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CC -----
DR EMBL: Y07539; CMA68827.1; -
DR PIR: S09992; GCCH.
DR PIR: A91740; A91740.
DR HSSP: P01274; 1ICN.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; Hormone2; 2.
DR PRINTS: PR00275; GLUCAG.
DR SMART: SM00070; GLUCA. 2.
DR PROSITE: PS00260; GLUCACON; 3
DR Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
KW Amidation.
KW SIGNAL. 22
FT CHAIN. 1
FT CHAIN. 23 151
FT PEPTIDE. 55 83
FT PEPTIDE. 86 116
FT PEPTIDE. 118 147
FT MOD RES. 147 147
SEQUENCE 151 AA: 17520 MW: B6C0D87536C0AEB5 CPG64:
      1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151
      AMIDATION (G-148 PROVIDE AMIDE GROUP) .
      MOD RES: B6C0D87536C0AEB5 CPG64:
      1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151
      MOD RES: B6C0D87536C0AEB5 CPG64:
      1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151
      MOD RES: B6C0D87536C0AEB5 CPG64:
      1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151
      MOD RES: B6C0D87536C0AEB5 CPG64:
      1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151
      MOD RES: B6C0D87536C0AEB5 CPG64:
      1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151
      MOD RES: B6C0D87536C0AEB5 CPG64:
      1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151
      MOD RES: B6C0D87536C0AEB5 CPG64:
      1 2 3 4 5 6 7 8 9 
```

RESULT	10	STANDARD:	PRT:	103 AA.
CDIC	10	GLUC_RANCA		
ID		P15438; P15440;		
AC		01-APR-1990 (Rel. 14, Created)		
DT		01-JUN-1993 (Rel. 26, last sequence update)		
DT		01-JUL-1993 (Rel. 26, last annotation update)		
DT		01-JUL-1993 (Rel. 26, last annotation update)		
DE		Glucagon precursor (Fragments).		
US		Rana catesbeiana (Bull frog).		
OC		Fukayaota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;		
OC		Amphibia; Batrachia; Anura; Neobatrachia; Ranoidae; Ranidae; Rana.		
OX		NCHI_taxid=8400;		
RN		{1}		
RP		SEQUENCE:		
RC		TISSUE=Pancreas;		
HA		MDL:MW=88257102; PubMed=3260236;		
HA		Pollock H.G.; Hamilton J.W.; Rouse J.B.; Ehnor K.E.; Kawitch A.H.;		
RT		"Isolation of peptide hormones from the pancreas of the bullfrog		
RT		(Rana catesbeiana). Amino acid sequences of pancreatic polypeptide,		
RT		oxytomodulin, and two glucagon-like peptides."		
RT		J. Biol. Chem. 263:9746-9751(1988).		
RL		-1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOPEN AND LIPIDS, AND RAISPS		
CC		-1- THE BLOOD SUGAR LEVEL.		
CC		-1- INDUCTION: PRODUCED IN THE CELLS OF THE ISLETS OF LANGERHANS		
CC		-1- IN RESPONSE TO A DROP IN THE BLOOD SUGAR CONCENTRATION. HOMOLOGY WITH		
CC		-1- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY		
CC		-1- OTHER SPECIES SEQUENCES.		
CC		-1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.		
DR		HSSP: P01274; ICGN.		
DR		PIR: h28091; GCFH.		
DR		InterPro: IPR000532; Glucagon.		
DR		PRINTS: PR00275; GLUCAGN.		
DR		SMART: SM00070; GLUCAG. 3.		
DR		PROSITE: P500260; GLUCAGONE. 3.		
KM		Glucagon family; Hormone.		
PT		peptide 1 29		GLUCAGON. 36 (OXYTOMODULIN).
PT		peptide 1 36		GLUCAGON-LIKE PEPTIDE 2.
PT		peptide 39 71		GLUCAGON-LIKE PEPTIDE 1.
FT		NON-CONS 71 103		GLUCAGON-LIKE PEPTIDE 2.
FT		PEPTIDE 103 AA: 11719 MW: 3162871HAFLCHP7 CXC64.		
SO				

Query Match 74.5% Score 108; DB 1; Length 103;
RT Best Local Similarity 69.0%; Pred. No. 9; Len 10;
Matches 20; Conservative 5; Mismatches 4; Indels 0; Gaps 0.

QY 1 AECTFTSDVSYLFGVAAKFIAMVKKR 29
DB 40 AKGTFTSDVSYLFGVAAKFIAMVKKR 68

RESULT 11

GLU2_ANGAN STANDARD; PRT: 30 AA.
AC P41521;
DT 01-NOV-1995 (Rel. 32, last sequence update)
DT 01-NOV-1995 (Rel. 32, last annotation update)
DE Glucagon-like peptide (GLP)
OS Anguilla anguilla (European freshwater eel), and
OS Anguilla rostrata (American eel).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Teleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Anguilliformes; Anguillidae;
OC Anguilla.
NCBI_TaxID=7936, 7938;

RP SEQUENCE.
RC TISSUE=Pancreas;
RX MEDLINE=91340068; PubMed=1874385;
RA Condon J.M., Andrews P.C., Thirumangalakudi T.W.
RT "The primary structure of glucagon-like peptide but not insulin has
RT been conserved between the American eel, Anguilla rostrata and the
RT European eel, Anguilla anguilla."
RL Gen. Comp. Endocrinol. 82:23-32(1991).
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR PIR: P61125, P61125.
DR PIR: P61125, P61125.
DR HSP: P01274, 1B80.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2, 1.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCAG.
DR PROSITE: PS00260; GLUCAGON: 1
KM Glucagon family; Amidation.
FT MOD_RES 30
SQ SHOEINCE 30 AA, 3476 MW, 6204 PEARSON649.0 CPO64.

Query Match 72.4% Score 105; DB 1; Length 30;
Best Local Similarity 69.0%; Pred. No. 7; Len 10;
Matches 20; Conservative 4; Mismatches 5; Indels 0; Gaps 0;

QY 1 AECTFTSDVSYLFGVAAKFIAMVKKR 29
DB 2 AKGTFTSDVSYLFGVAAKFIAMVKKR 30

RESULT 12

GLU2_LORAM STANDARD; PRT: 122 AA.
AC P04097;
DT 01-NOV-1986 (Rel. 03, Created)
DT 01-NOV-1986 (Rel. 03, last sequence update)
DT 16-OCT-2001 (Rel. 40, last annotation update)
DE Glucagon II precursor [Cantharis, Glucocorticoid-related polypeptide (GRP)];
OS Glucagon II; Glucagon-like peptide II;
OS Lophius americanus (American goosetfish) (Anguilliformes);
OC Eukaryota; Metazoa; Chordata; Vertebrata; Teleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neuteleostei;
OC Acanthomorpha; Paracanthopterygii; Lophiiformes; Lophiidae; Lophius
NCBI_TaxID=8073;

KN 11;
RP SEQUENCE: FROM N.A.
RX MEDLINE=8335785; PubMed=6338015;
RA Lund P.K., Goodman P.H., Montminy M.F., Dee P.C., Habener J.F.;

RT "Anguilliform islet pre-proglucagon II. Nucleotide and corresponding
RT amino acid sequence of the cDNA."
RL J. Biol. Chem. 258:3289-3284(1983).

RP PROCESSING.
RX MEDLINE=86286913; PubMed 3526301;
RA Nee B.D., Andrews P.C.;
RT "Specific glucagon-related peptides isolated from anguilliform islets
RT are metabolic cleavage products of (pre)proglucagon II."
KL Peptides 7:331-339(1986).

CC -1- FUNCTION: PROMOTES HYPERGLYCEMIA AND GLUCAGON AND PAYS
CC THE BLOOD SUGAR LEVEL.
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.

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CC or send an email to license@isb.slb.ch).

CC EMBL: V00632; CNA23905.1; -
DR PIR: A05150; GCAF2.
DR HSP: P01274; 1GCM.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2, 2.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCAG: 2.
DR PROSITE: PS00260; GLUCAGON: 1.

KM Glucagon family; Hormone. Cleavage on pair of basic residues, signal.
FT SIGNAL 1 21
FT PEPTIDE 22 49 GLUCAGON-LIKE PEPTIDE II.
FT PEPTIDE 52 80 GLUCAGON II.
FT PROPEP 83 86
FT PEPTIDE 89 119
SQ SHOEINCE 122 AA, 14171 MW, 5140 AC, 1111551 CPO64;

Query Match 68.3% Score 99; DB 1; Length 122;
Best Local Similarity 62.1%; Pred. No. 2; Len 08;
Matches 18; Conservative 6; Mismatches 5; Indels 0; Gaps 0;

QY 1 AECTFTSDVSYLFGVAAKFIAMVKKR 29
DB 90 AKGTFTSDVSYLFGVAAKFIAMVKKR 118

RESULT 13

GLU2_ORENI STANDARD; PRT: 33 AA.
AC P81027;
DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, last sequence update)
DT 01-NOV-1997 (Rel. 35, last annotation update)
DE Glucagon II.
OS Oreochromis niloticus (Nile tilapia) (Pisces);
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neuteleostei;
OC Acanthomorpha; Acanthopterygii; Perciformes; Percioidae;
OC Cichlidae; Oreochromis.
NCBI_TaxID=8128;

KN 11;
RP SEQUENCE:
RX MEDLINE=95384941; PubMed=7656183;
RA Nguyen T.M., Wright J.R., Jr., Nielsen P.F., Condon J.M.;
RT "Characterization of the pancreatic hormones from the Brookman body
RT of the tilapia, implications for islet xenograft studies."
RL Comp. Biochem. Physiol. 111C:33-44(1995).
CC -1- FUNCTION: PROMOTES HYPERGLYCEMIA AND GLUCAGON AND PAYS
CC THE BLOOD SUGAR LEVEL.
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS

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OM protein - protein search, using sw model

Run on: May 13, 2003, 09:07:49 Search time 53.8983 seconds

(without alignments)
114.687 Million cell updates/sec

Title: US-09-868-974-3

Percent score: 145
Sequence: 1 AEGFTSDVSSYLEGQAAKEFIAMVEYKGR 30

Scoring table: BLOSUM62
Gap: 10 0, Offset 0 5

Searched: 671580 seqs, 206047115 residues

Total number of hits satisfying chosen parameters: 671580

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database:

1: SPREMBL_21:*
2: sp_archaea:*
3: sp_bacteria:*
4: sp_fungi:*
5: sp_human:*
6: sp_invertebrate:*
7: sp_mammal:*
8: sp_mhc:*
9: sp_oranella:*
10: sp_phage:*
11: sp_plant:*
12: sp_protist:*
13: sp_virus:*
14: sp_vertebrate:*
15: sp_unclassified:*
16: sp_virus:*
17: sp_bacteria:*
17: sp_archaea:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	134	92.4	180	6	Q95LGO
2	122	84.1	206	13	Q91410
3	116	80.0	204	13	Q13956
4	108	74.5	230	13	Q8HMT9
5	104	71.7	266	13	Q42143
6	99	68.3	219	13	Q42144
7	97	66.9	72	13	Q91409
8	97	66.9	178	13	Q91971
9	92	63.4	178	13	Q91189
10	87	60.0	121	13	Q9DDE6
11	85	58.6	160	13	Q9PMT1
12	76	52.4	62	13	Q9PMT9
13	73	50.3	96	13	Q9DCA3
14	64	44.1	120	13	Q9PMT0
15	52.5	36.2	210	13	Q95X14
16	52	35.9	485	5	Q45265

17	51.5	35.5	427	17	Q8L1Y0
18	50	34.5	130	11	Q9CVF1
19	50	34.5	144	11	Q9H877
20	49.5	34.1	268	10	Q95XW8
21	48.5	33.4	266	10	Q40185
22	48	33.1	561	4	Q9NR10
23	48	33.1	564	4	Q961V4
24	48	33.1	564	4	Q9H477
25	48	33.1	712	3	Q8XKX3
26	48	33.1	3600	10	Q9SA64
27	47.5	32.8	222	10	Q9XP08
28	47.5	32.8	251	10	Q24966
29	47	32.4	136	17	Q8L1O2
30	47	32.4	154	16	Q9YF50
31	47	32.4	236	16	Q8Y8A1
32	47	32.4	244	16	Q8Y8A1
33	47	32.4	244	16	Q8Y8A1
34	47	32.4	721	2	Q9X4B9
35	47	32.4	877	10	Q42497
36	46.5	32.1	255	10	Q94VE0
37	46.5	32.1	255	10	Q8S306
38	46.5	32.1	1055	10	Q93725
39	46	31.7	236	16	Q92D11
40	45.5	31.4	185	16	Q33224
41	45.5	31.4	702	2	Q9JFK2
42	45.5	31.4	703	2	Q9JFK3
43	45.5	31.4	703	2	Q9JFK1
44	45.5	31.4	703	16	Q9JFK7
45	45.5	31.4	703	16	Q9JFK5

ALIGNMENTS

RESULT 1
ID Q95LGO PRELIMINARY: PRT: 180 AA.
AC Q95LGO:
DT 01-DEC-2001 (TREMBL) 19, Created
DT 01-DEC-2001 (TREMBL) 19, Last sequence update
DT 01-MAR-2002 (TREMBL) 20, Last annotation update
DE Preprolactogen.
US Canis familiaris (Dog).
OC Eukaryota; Metazoa; Chordata; Craniala; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
OX NCBI_TaxID=9615;
RN 111
RP SEQUENCE FROM N.A.
FA Irwin D.M.;
RT "cDNA cloning of prolactogen from the stomach and pancreas of the dog."
RI Submitted (SEP-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL: AF308433; AF109425.1; -
DR InterPro: IPR000532; G1ucagon.
DR PIR: P00123; Hormone2; 3.
DR Prosite: PS00260; G1UCAGON; UNKNOWN.3.
SQ SEQUENCE 180 AA: 21114 MW: 80669414PC324FD CRC64:

Query Match: 92.4% Score 134, DB 6, Length 180;
Best Local Similarity: 93.1%, Pct. 13;
Matches: 277 Conserved: 0, Mismatches: 2, Indels: 0, Gaps: 0;

QY 1 AEGFTSDVSSYLEGQAAKEFIAMVEYKGR 29
|||||
E0 99 AEGFTSDVSSYLEGQAAKEFIAMVEYKGR 127

RESULT 2
ID Q91410 PRELIMINARY: PRT: 206 AA.
AC Q91410:
DT 01-NOV-1996 (TREMBL) 01, Created
DT 01-NOV-1996 (TREMBL) 01, Last sequence update

DE 01-DEC-2001 (TREMblrel. 19, last annotation update)
 DE Proglucagon.
 GN PROGLUCAGON.
 OS Gallus gallus (Chicken).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Aves; Neornithae; Galliformes; Phasianidae; Phasianidae;
 OC Gallus.
 OX NCBI_TaxID=9041;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=95295739; PubMed=7776976;
 RA Irwin D.M., Wong J.;
 RT "Treat and chicken proglucagon: alternative splicing generates mRNA
 transcripts encoding glucagon-like peptide 2."
 RL Mol. Endocrinol. 9:267-277(1995).
 DR EMBL: S78477; AAB4506.1;
 DR HSSP: P01274; ICGN.
 DR InterPro: IPR000512; Glucagon.
 DR Pfam: PF00123; hormone2; 4.
 DR PRINTS: PR00275; GLUCAGN.
 DR SMART: SM00070; GLUCAGN.
 DR PROSITE: PS00260; GLUCAGON; 3.
 SU SEQUENCE 206 AA; 23875 MW; AB299E1B02FC6AA4 CRC64;

Query Match 84.1%; Score 122; DB 13; Length 206;
 Host local Similarity 79.3%; Pred. No. 5,9e-11;
 Matches 23; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

QY 1 AEGTSDVSSYLEGQAAKEFIAWEVKR 29
 DB 119 AEGTSDVSSYLEGQAAKEFIAWEVKR 147

RESULT 4
 ID 012956 PRELIMINARY: PRT: 204 AA.
 AC 012956; 012955;
 DT 01-JUN-1997 (TREMblrel. 04, Created)
 DT 01-JUL-1997 (TREMblrel. 04, Last sequence update)
 DT 01-JUN-2001 (TREMblrel. 17, Last annotation update)
 DE Glucagon precursor.
 OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Lepidoptera; Squamata; Scleroglossa; Anomura; Helodermatidae;
 OC Heloderma.
 OX NCBI_TaxID=8554;
 RN [1]
 RP SEQUENCE FROM N.A., ALTERNATIVE SPLICING, AND TISSUE SPECIFICITY.
 RC TISSUE=INTESTINE, AND PANCREAS;
 RX MEDLINE=97172477; PubMed=9020121;
 RA Chen Y.E., Drucker D.J.;
 RT "Tissue specific expression of unique mRNAs that encode proglucagon-
 derived peptides or extendin 4 in the lizard."
 RL J. Biol. Chem. 272:4108-4115(1997).
 CC 1 FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 CC THE BLOOD SUGAR LEVEL (BY SIMILARITY).
 CC 1 ALTERNATIVE PRODUCTS: 2 ISOFORMS: LPT1 (SHOWN HERE) AND LPT2 ARE
 CC PRODUCED BY ALTERNATIVE SPLICING.
 CC 1 TISSUE SPECIFICITY: ISOFORM LPT1 IS EXPRESSED IN BOTH PANCREAS AND
 CC INTESTINE. EXPRESSION OF ISOFORM LPT2 IS RESTRICTED TO THE
 CC PANCREAS. NEITHER ISOFORM IS DETECTED IN SALIVARY GLAND.
 CC 1 INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS IN
 CC RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION
 CC 1 SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 DR EMBL: 077612; AAB51129.1;
 DR EMBL: 077611; AAB51128.1;
 DR HSSP: P01274; ICGN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 4.
 DR PRINTS: PR00275; GLUCAGN.
 DR SMART: SM00070; GLUCAGN.
 DR PROSITE: PS00260; GLUCAGON; 2.
 KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;

KW Alternative splicing.
 FT SIGNAL 1 20
 FT PEPTIDE 21 50 GRP (GLUCENTINE RELATED POLYPEPTIDE).
 FT PEPTIDE 53 81 GLUCAGON.
 FT PEPTIDE 116 145 GLUCAGON-LIKE PEPTIDE 1.
 FT PEPTIDE 164 196 GLUCAGON-LIKE PEPTIDE 2.
 FT VARSPLIC 149 149 D -> E (IN ISOFORM LPT1).
 FT VARSPLIC 150 204 MISSING (IN ISOFORM LPT1).
 SU SEQUENCE 204 AA; 23553 MW; B13E4FE4873E72 CRC64;

Query Match 80.0%; Score 116; DB 13; Length 204;
 Host local Similarity 75.9%; Pred. No. 5e-10;
 Matches 22; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

QY 1 AEGTSDVSSYLEGQAAKEFIAWEVKR 29
 DB 117 AEGTSDVSSYLEGQAAKEFIAWEVKR 145

RESULT 4
 ID 080WL9 PRELIMINARY: PRT: 220 AA.
 AC 080WL9;
 DT 01-MAR-2002 (TREMblrel. 20, Created)
 DT 01-MAR-2002 (TREMblrel. 20, Last sequence update)
 DT 01-JUN-2002 (TREMblrel. 21, Last annotation update)
 DE Proglucagon.
 OS Hoplobatrachus rugulosus.
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Anura; Neobatrachia; Ranioidea; Ranidae;
 OC Hoplobatrachus.
 OX NCBI_TaxID=110072;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Yeung C.-M., Chow B.K.C.;
 RT "Identification of a proglucagon cDNA from Rana tigrina rugulosa that
 RT encodes two GLP-1s."
 RL Gen. Comp. Endocrinol. 124:0-0(2001).
 DR EMBL: AF342409; AAL35758.1;
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 4.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCAGN.
 DR PROSITE: PS00260; GLUCAGON; UNKNOWN.A.
 SU SEQUENCE 220 AA; 25615 MW; C72D926E7F89E381 CRC64;

Query Match 74.5%; Score 108; DB 13; Length 220;
 Host local Similarity 69.0%; Pred. No. 9,8e-09;
 Matches 20; Conservative 5; Mismatches 4; Indels 0; Gaps 0;

QY 1 AEGTSDVSSYLEGQAAKEFIAWEVKR 29
 DB 136 AEGTSDVSSYLEGQAAKEFIAWEVKR 164

RESULT 5
 ID 042143 PRELIMINARY: PRT: 266 AA.
 AC 042143;
 DT 01-JAN-1998 (TREMblrel. 05, Created)
 DT 01-JAN-1998 (TREMblrel. 05, Last sequence update)
 DT 01-JUN-2001 (TREMblrel. 17, Last annotation update)
 DE Glucagon I precursor [contains: glucagon, glucagon like peptide 1A
 DE (GLP-1A); glucagon-like peptide 1B (GLP-1B); glucagon-like peptide 1C
 DE (GLP-1C); glucagon-like peptide 2 (GLP-2)].
 OS Xenopus laevis (African clawed frog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipiloidea; Pipidae;
 OC Xenopodidae; Xenopus.
 OX NCBI_TaxID=8355;
 RN [1]
 RP SEQUENCE FROM N.A., AND ALTERNATIVE SPLICING.
 RC TISSUE=PANCREAS;

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RX MEDLINE-97368292; PubMed 9733287;
RA Irwin D.M., Satkunaratnam M., Wen Y., Brubaker P.L., Pederson R.A.,
RA Wheeler M.B.;
RT "The Xenopus proglucagon gene encodes novel GLP-1-like peptides with
RT insulinotropic properties."
RL Proc Natl Acad Sci U S A. 94(19):7920(1997)
CC 1 FUNCTION: PROMOTES HYDROLYSIS OF GLYCERIN AND LIPIDS, AND RAISES
CC THE BLOOD SUGAR LEVEL.
CC -1 ALTERNATIVE PRODUCTS: 2 ISOFORMS: 1 (SHOWN HERE) AND 2: ARE
CC PRODUCED BY ALTERNATIVE SPLICING.
CC -1 SIMILARITY: BELONGS TO THE GLUCAGON FAMILY
DR EMBL: AF004432; AAB65660.1; -
DR HSSP: P01274; IGCN.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 5.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA; 5.
DR PROSITE: PS00260; GLUCAGON; 5.
KW Glucagon family; Hormone; Signal; Cleavage on pair of basic residues;
KW Multigene family; Alternative splicing.
FT SIGNAL: 1 2
FT PEPTIDE: 53 81 GLUCAGON-LIKE PEPTIDE 1A
FT PEPTIDE: 97 133 GLUCAGON-LIKE PEPTIDE 1B
FT PEPTIDE: 142 173 GLUCAGON-LIKE PEPTIDE 1C
FT PEPTIDE: 180 211 GLUCAGON-LIKE PEPTIDE 1D
FT PEPTIDE: 227 259 GLUCAGON-LIKE PEPTIDE 2
FT VARSPLIC: 214 261 MISSING (IN ISOFORM 2);
SO SEQUENCE: 266 AA, 30951 MW, 54417HMC20AF872C CKE64,

Query Match
Best Local Similarity 71.7%; Score 104; DB 13; Length 266;
Matches 18; Conservative 7; Mismatches 4; Indels 0; Gaps 0;

OY 1 AECTFTSDVSSYLEGOAXEPIAEVYKGR 29
DB 181 AECTFTNDMTNYLEAKAKEFVGLIKGR 209
|||||:|||||:|||||:|||||:
RESULT 6
ID 042144 PRELIMINARY: PRT; 219 AA
AC 042144:
DT 01-JAN-1998 (TREMBlrel. 05, Created)
DT 01-JAN-1998 (TREMBlrel. 05, Last sequence update)
DT 01-JUN-2001 (TREMBlrel. 17, Last annotation update)
DE Glucagon II precursor [Contains: Glucagon; glucagon-like peptide 1A
DE (GLP-1A), glucagon-like peptide 1B (GLP-1b), glucagon-like peptide 1C
DE (GLP-1c)].
OS Xenopus laevis (African clawed frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipridae;
OC xenopodinae; Xenopus.
OX NCBI_TaxID=8355;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-PANCREAS;
RX MEDLINE-97368292; PubMed-9223287;
RA Irwin D.M., Satkunaratnam M., Wen Y., Brubaker P.L., Pederson R.A.,
RA Wheeler M.B.;
RT "The Xenopus proglucagon gene encodes novel GLP-1-like peptides with
RT insulinotropic properties."
RL Proc Natl Acad Sci U S A. 94(19):7920(1997).
CC -1 FUNCTION: PROMOTES HYDROLYSIS OF GLYCERIN AND LIPIDS, AND RAISES
CC THE BLOOD SUGAR LEVEL.
CC -1 SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR EMBL: AF004433; AAB65661.1;
DR HSSP: P01274; IGCN.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 4.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA; 4.
DR PROSITE: PS00260; GLUCAGON; 3.
KW Glucagon family; Hormone; Signal; Cleavage on pair of basic residues;

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KW Multigene family.
FT SIGNAL: 1 20 POTENTIAL.
FT PEPTIDE: 53 81 GLUCAGON.
FT PEPTIDE: 97 133 GLUCAGON-LIKE PEPTIDE 1A.
FT PEPTIDE: 142 173 GLUCAGON-LIKE PEPTIDE 1B.
FT PEPTIDE: 180 211 GLUCAGON-LIKE PEPTIDE 1C.
SO SEQUENCE: 219 AA, 25471 MW, 45594240AF872C CKE64;

Query Match
Best Local Similarity 58.6%; Score 99; DB 11; Length 219;
Matches 17; Conservative 7; Mismatches 5; Indels 0; Gaps 0;

OY 1 AECTFTSDVSSYLEGOAXEPIAEVYKGR 29
DB 181 AECTFTNDMTNYLEAKAKEFVGLIKGR 209
|||||:|||||:|||||:|||||:
RESULT 7
ID 091409 PRELIMINARY: PRT; 72 AA.
AC 091409; 091232;
DT 01-NOV-1996 (TREMBlrel. 01, Created)
DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)
DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
DE proglucagon (Fragment).
OS Oocerythrus ischawytscha (Chinook salmon) (King salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=7940;
RN [1]
RP SEQUENCE FROM N.A.
RC MEDLINE=95295739; PubMed-7776976;
RX Irwin D.M., Wong J.;
RT "Trout and chicken proglucagon: alternative splicing generates mRNA
RT transcripts encoding glucagon-like peptide 2."
RL Mol. Endocrinol. 9:267-277(1995).
DR EMBL: S78474; AAC14283.1; -
DR FMBL: U19920; AAC59670.1; -
DR HSSP: P01274; IGCN.
DR InterPro: IPR00532; Glucagon.
DR Pfam: PF00123; hormone2; 2.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA; 2.
DR PROSITE: PS00260; GLUCAGON; UNKNOWN_1.
FT NON_TER: 1 1
SO SEQUENCE: 72 AA, 8293 MW, 8584352HIC20A31 CKE64;

Query Match
Best Local Similarity 58.6%; Score 97; DB 13; Length 72;
Matches 17; Conservative 7; Mismatches 5; Indels 0; Gaps 0;

OY 1 AECTFTSDVSSYLEGOAXEPIAEVYKGR 29
DB 40 AECTFTSDVSSYLEGOAXEPIAEVYKGR 68
|||||:|||||:|||||:|||||:
RESULT 8
ID 091971 PRELIMINARY: PRT; 178 AA.
AC 091971; 091408; 091188; 091189;
DT 01-NOV-1996 (TREMBlrel. 01, Created)
DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)
DT 01-JUN-2001 (TREMBlrel. 17, Last annotation update)
DE Glucagon I precursor.
OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A. AND ALTERNATIVE SPLICING.
RC TISSUE-DISTAL SMALL INTESTINE, AND PANCREAS;

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RX MEDLINE-95295739; PubMed-7776976;
 RA Iwain D.M., Wong J.;
 RT "Trot and chicken glucagon: alternative splicing generates mRNA
 transcripts encoding glucagon-like peptide 2.";
 RI Mol. Endocrinol. 9:267-277(1995).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOCEN AND LIPIDS, AND RAISES
 CC -1- THE BLOOD SUGAR LEVEL (BY SIMILARITY).
 CC -1- ALTERNATIVE PRODUCTS: 2 ISOFORMS; INTESTINAL (SHOWN HERE) AND
 CC -1- PANCREATIC; ARE PRODUCED BY ALTERNATIVE SPLICING.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGEHRMANS IN
 CC -1- RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC -1- EMBL: 019914; AAC60210.1;
 CC -1- EMBL: 019917; AAC59669.1;
 CC -1- EMBL: 019918; AAC60212.1;
 CC -1- EMBL: 019919; AAC60213.1;
 CC -1- EMBL: 019918; AAC60213.1; JOINED.
 CC -1- EMBL: S78475; AAB14504.2;
 CC -1- EMBL: S78474; IGCN.
 CC -1- EMBL: P01274; IGCN.
 CC -1- EMBL: P00123; hormone2; 3.
 CC -1- EMBL: P00275; GLUCAGN.
 CC -1- SMART: SM00070; GLUCAGN. 3.
 CC -1- PROSITE: PS00260; GLUCAGN: 3.
 CC -1- Glucagon family; hormone; cleavage on pair of basic residues; Signal;
 CC -1- Alternative splicing; Multigene family.
 CC -1- SIGNAL: 1
 CC -1- PEPTIDE: 2 49 GRP (GLICENTINE RELATED POLYPEPTIDE).
 CC -1- PEPTIDE: 52 80 GLUCAGON.
 CC -1- PEPTIDE: 85 120 GLUCAGON-LIKE PEPTIDE 1.
 CC -1- PEPTIDE: 137 169 GLUCAGON-LIKE PEPTIDE 2.
 CC -1- VARSPLIC: 124 178 MISSING (IN PANCREATIC ISOFORM).
 CC -1- SEQUENCE: 178 AA; 2004 MW; 5CF698CFC2A9D58F CRC64;
 SO
 Query Match 66.94; Score 97; FR 13; Length 178;
 Best Local Similarity 58.64; Pred. No. 4e-07;
 Matches 17; Conservative 7; Mismatches 5; Indels 0; Gaps 0;
 QY 1 AEGFTSDVSSYLEGQAAKEFLIAMEVKGR 29
 DB 91 AEGFTSDVSSYLEGQAAKEFLIAMEVKGR 119
 ID Q91189 PRELIMINARY; PRT; 178 AA
 AC Q91189; Q92168;
 DT 01-NOV-1996 (TRENDEL. 01, Created)
 DT 01-NOV-1996 (TRENDEL. 01, Last sequence update)
 DT 01-JUN-2001 (TRENDEL. 17, Last annotation update)
 DE Glucagon 11 precursor.
 OS Oncothymus mykiss (Rainbow trout) (Salmo gairdneri).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteliostei;
 OC Proactinopterygii; Salmoniformes; Salmonidae; oncothymus.
 OC NCBI_TaxID=8022;
 RN 11
 RP SEQUENCE FROM N.A. AND ALTERNATIVE SPLICING.
 RP TISSUE-DISTAL SMALL INTESTINE, AND PANCREAS.
 RX MEDLINE-95295739; PubMed-7776976;
 RA Iwain D.M., Wong J.;
 RT "Trot and chicken glucagon: alternative splicing generates mRNA
 transcripts encoding glucagon-like peptide 2.";
 RI Mol. Endocrinol. 9:267-277(1995).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOCEN AND LIPIDS, AND RAISES
 CC -1- THE BLOOD SUGAR LEVEL (BY SIMILARITY).
 CC -1- ALTERNATIVE PRODUCTS: 2 ISOFORMS; INTESTINAL (SHOWN HERE) AND
 CC -1- PANCREATIC; ARE PRODUCED BY ALTERNATIVE SPLICING.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGEHRMANS IN
 CC -1- RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC -1- EMBL: 019914; AAC59669.1;
 SO

DR EMBL: 019916; AAC60210.1;
 DR EMBL: 019915; AAC60210.1; JOINED.
 DR EMBL: 019915; AAC60209.1;
 DR HSSP: P01274; IGCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 3.
 DR PRINTS: SM00070; GLUCAGN.
 DR SMART: SM00070; GLUCAGN: 3.
 DR PROSITE: PS00260; GLUCAGN: UNKNOWN-2.
 DR Glucagon family; hormone; cleavage on pair of basic residues; Signal;
 CC -1- Alternative splicing; Multigene family.
 CC -1- SIGNAL: 1
 CC -1- PEPTIDE: 2 49 GRP (GLICENTINE RELATED POLYPEPTIDE).
 CC -1- PEPTIDE: 52 80 GLUCAGON.
 CC -1- PEPTIDE: 85 120 GLUCAGON-LIKE PEPTIDE 1.
 CC -1- PEPTIDE: 137 169 GLUCAGON-LIKE PEPTIDE 2.
 CC -1- VARSPLIC: 124 178 MISSING (IN PANCREATIC ISOFORM).
 CC -1- SEQUENCE: 178 AA; 19998 MW; E89D73866C91C66 CRC64;
 SO
 Query Match 63.4%; Score 92; DB 13; Length 178;
 Best Local Similarity 57.1%; Pred. No. 2.4e-06;
 Matches 16; Conservative 7; Mismatches 5; Indels 0; Gaps 0;
 QY 1 AEGFTSDVSSYLEGQAAKEFLIAMEVKGR 28
 DB 91 AEGFTSDVSSYLEGQAAKEFLIAMEVKGR 118
 ID Q9DDE6 PRELIMINARY; PRT; 121 AA
 AC Q9DDE6;
 DT 01-MAR-2001 (TRENDEL. 16, Created)
 DT 01-MAR-2001 (TRENDEL. 16, Last sequence update)
 DT 01-DEC-2001 (TRENDEL. 19, Last annotation update)
 DE Glucagon polypeptide.
 GN GCG of glu.
 OS Brachydanio rerio (zebrafish) (zebra danio).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
 OC Cyprinidae; Danio.
 OC NCBI_TaxID=7953;
 RN 11
 RP SEQUENCE FROM N.A.
 RP MEDLINE-94425190; PubMed-10495291;
 RX Argenton F., Zecchin E., Bortolussi M.;
 RA "Early appearance of pancreatic hormone-expressing cells in the
 zebrafish embryo.";
 RT Mech. Dev. 87:217-221(1999)
 RL EMBL: AJ133697; CAC20108.1;
 DR HSSP: P01274; IGCN.
 DR ZFIN: ZDB-GENE-010219-1; qcg.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 2
 DR PRINTS: P00275; GLUCAGN.
 DR SMART: SM00070; GLUCAGN: 2.
 DR PROSITE: PS00260; GLUCAGN: 1.
 DR polypeptide.
 CC -1- CHAIN: 49 79 GLUCAGON.
 CC -1- CHAIN: 88 121 GLUCAGON-LIKE PEPTIDE 1.
 CC -1- SEQUENCE: 121 AA; 13537 MW; A85485F690DA180F CRC64;
 SO

Query Match 60.08; Score 87; DB 13; Length 121;
 Best Local Similarity 73.4%; Pred. No. 9.1e-06;
 Matches 17; Conservative 3; Mismatches 3; Indels 0; Gaps 0;
 QY 1 AEGFTSDVSSYLEGQAAKEFLIAMEVKGR 23
 DB 89 AEGFTSDVSSYLEGQAAKEFLIAMEVKGR 111
 ID Q9PURA
 AC Q9PURA;
 DT 01-NOV-1996 (TRENDEL. 01, Created)
 DT 01-NOV-1996 (TRENDEL. 01, Last sequence update)
 DT 01-JUN-2001 (TRENDEL. 17, Last annotation update)
 DE Glucagon 11 precursor.
 OS Oncothymus mykiss (Rainbow trout) (Salmo gairdneri).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteliostei;
 OC Proactinopterygii; Salmoniformes; Salmonidae; oncothymus.
 OC NCBI_TaxID=8022;
 RN 11
 RP SEQUENCE FROM N.A. AND ALTERNATIVE SPLICING.
 RP TISSUE-DISTAL SMALL INTESTINE, AND PANCREAS.
 RX MEDLINE-95295739; PubMed-7776976;
 RA Iwain D.M., Wong J.;
 RT "Trot and chicken glucagon: alternative splicing generates mRNA
 transcripts encoding glucagon-like peptide 2.";
 RI Mol. Endocrinol. 9:267-277(1995).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOCEN AND LIPIDS, AND RAISES
 CC -1- THE BLOOD SUGAR LEVEL (BY SIMILARITY).
 CC -1- ALTERNATIVE PRODUCTS: 2 ISOFORMS; INTESTINAL (SHOWN HERE) AND
 CC -1- PANCREATIC; ARE PRODUCED BY ALTERNATIVE SPLICING.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGEHRMANS IN
 CC -1- RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC -1- EMBL: 019914; AAC59669.1;
 SO

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RT      "Primary structures of peptides derived from proglucagon isolated from
RL      the pancreas of the elasmobranch fish, Sphyrna tiburo."
RC      15:16-167(1994).
CC      -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOSYL AMINO ACIDS AND FAISES
CC      THE BLOOD SUGAR LEVEL.
CC      -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC      HSD: P01274; ICGN.
CC      InterPro: IPR000532; GLUCAGON.
CC      ENRANTS, P000275; GLUCAGON.
CC      SMART, S00070; GHRCA. 2
DR      PROSITE: P500260; GLUCAGON; 2.
KW      Glucagon family; Hormone.
FT      PEPTIDE 1 29
FT      NON CONS 33 34
FT      PEPTIDE 34 62
FT      SEQUENCE 52 AA; 7270 MW; 65F44B71C09CDB1 CRC64;
CC      Query Match 52.4%, Score 76, DR 13, Length 62;
CC      Host Local Similarity 50.0%; Pred No. 30022;
CC      Matches 12; Conservative 6; Mismatches 6; Indels 0; Gaps 0;
QY      1 AEGFTSDVSYLEGANAEFLAM 24
QY      2 SEQFTISDYSKYMIDKAKDFVQM 25
DB
RESULT 13
Q9D643
ID      Q9D643      PRELIMINARY;      PRT:      96 AA.
AC      Q9D643;
DT      01-MAR-2001 (TrEMBLrel. 16, Created)
DT      01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT      01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE      Proglucagon (Fragment).
OS      Ambloplites rupestris.
OC      Eukaryotes, Metazoa, Chordata, Clariata, Vertebrata, Pteleostomi;
OC      Actinopterygii, Neuphytarii, Teleostei, Euteleostei, Neoteleostei;
OC      Acanthomorpha; Acanthopterygii; Perciformes; Percoidae;
OC      Centrarchidae, Ambloplites.
OX      NCBI_TaxID=109273;
RN      [1]
RP      SOURCE: FROM N.A.
RA      Al-Malhouk A. A., Irwin D. M., Youson J. H.;
RT      "Rock Bass Proglucagon."
RL      Submitted (SEP-1999) to the EMBL/Genbank/DBJ databases.
NP      EMBL: AF190499; AF516778.1; -.
DR      HSD: P01274; ICGN.
DR      InterPro: IPR000532; Glucagon.
DR      Pfam: PF00123; hormone2; 2.
DR      PRINTS: P00275; GLUCAGON.
DR      SMART: S00070; GHRCA. 2.
DR      PROSITE: P500260; GLUCAGON; UNKNOWN.1.
FT      NON_TER 1 1
FT      CHAIN 1 29
FT      CHAIN 39 >70
FT      CHAIN 86 >96
FT      NON_TER 96 96
FT      SEQUENCE 96 AA; 12225 MW; 6435033EBDD30CE CRC64.
CC      Query Match 50.3%, Score 73, DR 13, Length 36;
CC      Host Local Similarity 50.0%; Pred No. 0.0011;
CC      Matches 12; Conservative 7; Mismatches 5; Indels 0; Gaps 0;
QY      1 AEGFTSDVSYLEGANAEFLAM 24
QY      2 SEQFTISDYSKYMIDKAKDFVQM 25
DB
RESULT 14
Q9D640
ID      Q9D640      PRELIMINARY;      PRT:      120 AA.
AC      Q9D640;

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RT 01 MAY 2000 (TREMblrel. 13, created)
DT 01 MAY 2000 (TREMblrel. 13, last sequence update)
DE 01-DEC-2001 (TREMblrel. 19, last annotation update)
DE 01-DEC-2001 (TREMblrel. 19, last sequence update)
DE Glucagon 11 precursor [contains: Glucagon; glucagon-like peptide
DE (GLP)].
OS Petromyzon marinus (Sea lamprey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Hyperoartia;
OC Petromyzoniformes; Petromyzontidae; Petromyzon
OC NCBI_TaxID=7757;
RN 111
RP SEQUENCE FROM N.A.
RC TISSUE=INTESTINE;
RX MEDLINE-20022986; PubMed-10555286;
KA Lewis D.M., Hunter O., Youson J.H.;
KT "Lamprey glucagon and the origin of glucagon-like peptides."
KL Mol. Biol. Evol. 16:1548-1557(1999).
CC - FUNCTION: PROMOTES HYDROLYSIS OF GLYCOCEN AND LIPIDS, AND RAISHS
CC THE BLOOD SUGAR LEVEL.
CC - SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR EMBL: AF159708; AAF09187.1;
DR HSSP: P01275; IHHO.
DR InterPro: IPR000542; Glucagon.
DR Pfam: PF00123; hormone2; 2.
DR PRINTS: SM00070; GLUCAGN.
DR SMART: SM00260; GLUCAGN; 2.
DR PROSITE: PS00260; GLUCAGN; 2.
KW Glucagon family; Hormone; Signal; Cleavage on pair of basic residues;
KW Multigene family.
FT SIGNAL. 1 7
FT PEPTIDE 44 72 GLUCAGON.
FT PEPTIDE 89 120 GLUCAGON-LIKE PEPTIDE.
SQ SEQUENCE 120 AA; 13397 MW; FVDE667B96E198D8 CRC64;

Query Match 44.1%; Score 64; DB 13; Length 120;
Best Local Similarity 41.7%; Pred. No. 0.036;
Matches 10; Conservative 8; Mismatches 6; Indels 0; Gaps 0;

QY 1 AETFTSDVSSYLEGQAAKEFLAW 24
DB 45 SQGFTSDVSSKHLQVQAKDPVTW 68

RESULT 15
ID Q95X14 PRRLIMINART; PRT; 210 AA.
AC Q95X14;
DT 01-DEC-2001 (TREMblrel. 19, created)
DT 01-DEC-2001 (TREMblrel. 19, last sequence update)
DT 01-MAR-2002 (TREMblrel. 20, last annotation update)
DE Hypothetical 24.2 kDa protein.
GN Y54F10BM.5
OS Caenorhabditis elegans.
OC Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
OC Rhabditidae; Pelodidae; Caenorhabditis.
OC NCBI_TaxID=6239;
RN 111
RP SEQUENCE FROM N.A.
RC STRAIN-BRISTOL N2;
RX MRLINE-99069613; PubMed-9851916;
RA None;
RT "Genome sequence of the nematode C. elegans: a platform for
RT investigating biology. The C. elegans Sequencing Consortium.";
KL Science 282:2012-2018(1998).
RN 121
RP SEQUENCE FROM N.A.
RC STRAIN-BRISTOL N2;
KA Bradshaw-Cordum H., Ryan E., Courtney L., Yorkum M.;
KT "The sequence of C. elegans cosmid Y54F10BM.";
RT Submitted (MAR-2000) to the EMBL/GenBank/DBJ databases.
RN 131
RP SEQUENCE FROM N.A.
RC STRAIN-BRISTOL N2;
KA Waterston R.;

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RT "Direct Submission";
KL Submitted (SEP-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL: AC026301; AAK68996.1;
DR InterPro: IPR002900; DUF38.
DR InterPro: IPR001810; F-box.
DR Pfam: PF01827; DUF38; 1.
DR Pfam: PF00646; F-box; 1.
DR PROSITE: PS50181; FBOX; 1.
KW Hypothetical protein
SU SEQUENCE 210 AA; 24173 MW; 04E0BDC2190A6441 CRC64;

Query Match 36.2%; Score 52.5; DB 5; Length 210;
Best Local Similarity 37.9%; Pred. No. 4.4;
Matches 11; Conservative 4; Mismatches 11; Indels 3; Gaps 1;

QY 3 GFTSDVSS--YLGQAAKEFLAWKVG 28
DB 167 GLSRDVSILRYLDAKLLDILLWRKIG 195

Search completed: May 13, 2003, 09:27:37
Job time : 55.8983 secs

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